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501

Phe Ala Tyr Gly Lys Glu Gly Tyr Ala Glu Gly Lys Ile Pro Pro Asp
115 120 125

5 Ala Thr Leu Ile Phe Glu Ile Glu Leu Tyr Ala Val Thr Lys Gly Pro
130 135 140

Arg Ser Ile Glu Thr Phe Lys Gln Ile Asp Met Asp Asn Asp Arg Gln
145 150 155 160

10 Leu Ser Lys Ala Glu Ile Asn Leu Tyr Leu Gln Arg Glu Phe Glu Lys
165 170 175

Asp Glu Lys Pro Arg Asp Lys Ser Tyr Gln Asp Ala Val Leu Glu Asp
15 180 185 190

Ile Phe Lys Lys Asn Asp His Asp Gly Asp Gly Phe Ile Ser Pro Lys
195 200 205

20 Glu Tyr Asn Val Tyr Gln His Asp Glu Leu Xaa
210 215

25 (2) INFORMATION FOR SEQ ID NO: 257:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 50 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 257:

Met Trp Val Ile Arg Val Phe Gln Lys Thr Phe Leu Phe Phe Val Leu
1 5 10 15

35 Phe Trp Ser Val His Cys Ile Ser Asp Lys Phe Gly Cys Leu Trp His
20 25 30

Val Cys Met Lys Arg Glu Gly Asp Xaa Asn Cys Leu Ser Phe Ser Xaa
40 35 40 45

Leu Xaa
50

45

(2) INFORMATION FOR SEQ ID NO: 258:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 122 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 258:

55 Met Pro Ser Gln Thr Glu Xaa Phe Ala Ala Cys Gly Gly His Ser Leu
1 5 10 15

Leu Leu Val Xaa Leu Pro Leu Gly Leu Pro Phe Cys Pro Arg Ala Ala.
60 20 25 30

Leu Cys Asp Leu Pro Phe Ser Leu Pro Ser Phe Pro Gly Gln Ala Arg
 35 40 45

Arg Gly Gly Ala Glu Lys Gln Gly Ala Glu Gly Arg Gly Leu Gln Val
 5 50 55 60

Lys Pro Arg Gly Gln Arg Thr Phe Gln Val Ser Arg Thr Ala Pro Ala
 65 70 75 80

10 Ala Pro Arg Ser Arg Gln Pro Arg Pro Pro Ala Ala Leu Pro Ala Leu
 85 90 95

Gly Phe Gly Gly Arg Gly Val Ala Lys Gly Arg Phe Leu Cys Phe Trp
 100 105 110

15 Cys Leu Tyr Met Leu Arg Ile Asp Gln Xaa
 115 120

20 (2) INFORMATION FOR SEQ ID NO: 259:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 88 amino acids
 25 (B) TYPE: amino acid
 (C) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 259:

Met Thr Ala Phe Cys Ser Leu Leu Leu Gln Ala Gln Ser Leu Leu Pro
 30 1 5 10 15

Arg Thr Met Ala Ala Pro Gln Asp Ser Leu Arg Pro Gly Glu Glu Asp
 20 25 30

35 Glu Gly Met Gln Leu Leu Gln Thr Lys Asp Ser Met Ala Lys Gly Ala
 35 40 45

Arg Pro Gly Ala Xaa Arg Gly Arg Ala Arg Trp Gly Leu Ala Tyr Thr
 50 55 60

40 Leu Leu His Asn Pro Thr Leu Gln Val Phe Arg Lys Thr Ala Leu Leu
 65 70 75 80

Gly Ala Asn Gly Ala Gln Pro Xaa
 45 85

50 (2) INFORMATION FOR SEQ ID NO: 260:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 26 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 260:

Met Ile Gln Val Ser Val Pro Leu Leu Thr Ile Met Ile Phe Leu Leu
 1 5 10 15

60 Tyr Leu Gln Ile Gly Pro Gly Lys Leu Xaa

20 25

5 (2) INFORMATION FOR SEQ ID NO: 261:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 29 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 261:

Met Leu Leu Asp Pro Phe Ile Leu Leu Phe Cys Leu Phe Ser Thr Ala
1 5 10 15

Ala Gln Ser Cys Leu Glu Phe Ile Tyr Ile Gln Phe Xaa
15 20 25

20 25 (2) INFORMATION FOR SEQ ID NO: 262:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 44 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 262:

Met Lys Phe Leu Ser Ile Leu Leu Asp Asp Asn Asn Phe Xaa Leu Met
30 1 5 10 15

Leu Met Leu Ala Pro Phe Gly Cys Leu Ala Phe Glu Arg Ser Met Lys
20 25 30

35 Met Arg Asn Gly Ala Leu Gly Leu Glu Glu Val Xaa
35 40

40 (2) INFORMATION FOR SEQ ID NO: 263:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 363 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 263:

Met Arg Thr Leu Phe Asn Leu Leu Trp Leu Ala Leu Ala Cys Ser Pro
50 1 5 10 15

Val His Thr Thr Leu Ser Lys Ser Asp Ala Lys Lys Ala Ala Ser Lys
20 25 30

55 Thr Leu Leu Glu Lys Ser Gln Phe Ser Asp Lys Pro Val Gln Asp Arg
35 40 45

Gly Leu Val Val Thr Asp Leu Lys Ala Glu Ser Val Val Leu Glu His
50 55 60

60 Arg Ser Tyr Cys Ser Ala Lys Ala Arg Asp Arg His Phe Ala Gly Asp

504

| | | | | |
|----|---|-----|-----|-----|
| | 65 | 70 | 75 | 80 |
| | Val Leu Gly Tyr Val Thr Pro Trp Asn Ser His Gly Tyr Asp Val Thr | | | |
| | 85 | 90 | 95 | |
| 5 | Lys Val Phe Gly Ser Lys Phe Thr Gln Ile Ser Pro Val Trp Leu Gln | | | |
| | 100 | 105 | 110 | |
| | Leu Lys Arg Arg Gly Arg Glu Met Phe Glu Val Thr Gly Leu His Asp | | | |
| 10 | 115 | 120 | 125 | |
| | Val Asp Gln Gly Trp Met Arg Ala Val Arg Lys His Ala Lys Gly Leu | | | |
| | 130 | 135 | 140 | |
| 15 | His Ile Val Pro Arg Leu Leu Phe Glu Asp Trp Thr Tyr Asp Asp Phe | | | |
| | 145 | 150 | 155 | 160 |
| | Arg Asn Val Leu Asp Ser Glu Asp Glu Ile Glu Glu Leu Ser Lys Thr | | | |
| | 165 | 170 | 175 | |
| 20 | Val Val Gln Val Ala Lys Asn Gln His Phe Asp Gly Phe Val Val Glu | | | |
| | 180 | 185 | 190 | |
| | Val Trp Asn Gln Leu Leu Ser Gln Lys Arg Val Thr Asp Gln Leu Gly | | | |
| 25 | 195 | 200 | 205 | |
| | Met Phe Thr His Lys Glu Phe Glu Gln Leu Ala Pro Val Leu Asp Gly | | | |
| | 210 | 215 | 220 | |
| 30 | Phe Ser Leu Met Thr Tyr Asp Tyr Ser Thr Ala His Gln Pro Gly Pro | | | |
| | 225 | 230 | 235 | 240 |
| | Asn Ala Pro Leu Ser Trp Val Arg Ala Cys Val Gln Val Leu Asp Pro | | | |
| | 245 | 250 | 255 | |
| 35 | Lys Ser Lys Trp Arg Ser Lys Ile Leu Leu Gly Leu Asn Phe Tyr Gly | | | |
| | 260 | 265 | 270 | |
| | Met Asp Tyr Ala Thr Ser Lys Asp Ala Arg Glu Pro Val Val Gly Ala | | | |
| 40 | 275 | 280 | 285 | |
| | Arg Tyr Ile Gln Thr Leu Lys Asp His Arg Pro Arg Met Val Trp Asp | | | |
| | 290 | 295 | 300 | |
| 45 | Ser Gln Xaa Ser Glu His Phe Phe Glu Tyr Lys Lys Ser Arg Ser Gly | | | |
| | 305 | 310 | 315 | 320 |
| | Arg His Val Val Phe Tyr Pro Thr Leu Lys Ser Leu Gln Val Arg Leu | | | |
| | 325 | 330 | 335 | |
| 50 | Glu Leu Ala Arg Glu Leu Gly Val Gly Val Ser Ile Trp Glu Leu Gly | | | |
| | 340 | 345 | 350 | |
| | Gln Gly Leu Asp Tyr Phe Tyr Asp Leu Leu Xaa | | | |
| 55 | 355 | 360 | | |

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 128 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 264:

Leu Pro Thr Lys Ile Leu Val Lys Pro Asp Arg Thr Phe Glu Ile Lys
1 5 10 15

10 Ile Gly Gln Pro Thr Val Ser Tyr Phe Leu Lys Ala Ala Ala Gly Ile
20 25 30

Glu Lys Gly Ala Arg Gln Thr Gly Lys Glu Val Ala Gly Leu Val Thr
35 40 45

15 Leu Lys His Val Tyr Glu Ile Ala Arg Ile Lys Ala Gln Asp Glu Ala
50 55 60

20 Phe Ala Leu Gln Asp Val Pro Leu Ser Ser Val Val Arg Ser Ile Ile
65 70 75 80

Gly Ser Ala Arg Ser Leu Gly Ile Arg Val Val Lys Asp Leu Ser Ser
85 90 95

25 Glu Glu Leu Ala Ala Phe Gln Lys Glu Arg Ala Ile Phe Leu Ala Ala
100 105 110

30 Gln Lys Glu Ala Asp Leu Ala Ala Gln Glu Glu Ala Ala Lys Lys Xaa
115 120 125

35

(2) INFORMATION FOR SEQ ID NO: 265:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 54 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 265:

45 Met Leu Leu Gln Ile His Pro Leu Leu Pro Ser Pro Thr Ile Pro His
1 5 10 15

Ile Leu Leu Leu Phe Leu Tyr Pro Thr Phe Ser Ile Leu Glu His Ser
20 25 30

50 Cys Ser Tyr Cys Ile Glu Tyr Leu Trp Val Cys Leu Leu Phe Cys Leu
35 40 45

Ser Leu Trp Phe Leu Xaa
50

55

(2) INFORMATION FOR SEQ ID NO: 266:

60 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 29 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 266:

5

Met Cys Leu Trp Cys Cys Gly Asp Val Cys Ser Gly Leu Ser Ser Leu
1 5 10 15

10 Leu Ser Leu Cys Val Cys Val Val Leu Ala Val Cys
20 25

(2) INFORMATION FOR SEQ ID NO: 267:

15

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 26 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 267:

Glu Gly Leu Arg Leu Leu Leu Ser Leu Pro Ala Ala Leu Pro Arg Ser
1 5 10 15

25

Cys Cys His Pro Arg Trp Leu Pro Val Xaa
20 25

30

(2) INFORMATION FOR SEQ ID NO: 268:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 221 amino acids

(B) TYPE: amino acid

35

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 268:

40

Met Phe His Gly Ile Pro Ala Thr Pro Gly Ile Gly Ala Pro Gly Asn
1 5 10 15

Lys Pro Glu Leu Tyr Glu Glu Val Lys Leu Tyr Lys Asn Ala Arg Glu
20 25 30

45

Arg Glu Lys Tyr Asp Asn Met Ala Glu Leu Phe Ala Val Val Lys Thr
35 40 45

Met Gln Ala Leu Glu Lys Ala Tyr Ile Lys Asp Cys Val Ser Pro Ser
50 55 60

50

Glu Tyr Thr Ala Ala Cys Ser Arg Leu Leu Val Gln Tyr Lys Ala Ala
65 70 75 80

Phe Arg Gln Val Gln Gly Ser Glu Ile Ser Ser Ile Asp Glu Phe Cys
85 90 95

55

Arg Lys Phe Arg Leu Asp Cys Pro Leu Ala Met Glu Arg Ile Lys Glu
100 105 110

60

Asp Arg Pro Ile Thr Ile Lys Asp Asp Lys Gly Asn Leu Asn Arg Cys
115 120 125

507

Ile Ala Asp Val Val Ser Leu Phe Ile Thr Val Met Asp Lys Leu Arg
130 135 140

5 Leu Glu Ile Arg Ala Met Asp Glu Ile Gln Pro Asp Leu Arg Glu Leu
145 150 155 160

Met Glu Thr Met His Arg Met Ser His Leu Pro Pro Asp Phe Glu Gly
165 170 175

10 Arg Gln Thr Val Ser Gln Trp Leu Gln Thr Leu Ser Gly Met Ser Ala
180 185 190

Ser Asp Glu Leu Asp Asp Ser Gln Val Arg Gln Met Leu Phe Asp Leu
15 195 200 205

Glu Ser Ala Tyr Asn Ala Phe Asn Arg Phe Leu His Ala
210 215 220

20

(2) INFORMATION FOR SEQ ID NO: 269:

25 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 3 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 269:

30 Met Lys Xaa
1

35 (2) INFORMATION FOR SEQ ID NO: 270:

40 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 49 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 270:

Met Gln Ala Pro Phe Xaa His Phe Ser Phe Arg Met Phe Ser Asn Leu
1 5 10 15

45 Tyr Cys Phe Ser Asp Phe Gln Pro Asn Ile Ser Pro Cys Pro Leu Cys
20 25 30

His Cys Ile Leu Pro Xaa His His His Val Phe Leu Leu Ala Val
50 35 40 45

Xaa

55

(2) INFORMATION FOR SEQ ID NO: 271:

60 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 52 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 271:

5 Met Lys Leu Val Thr Met Phe Asp Lys Leu Ser Arg Asn Arg Val Ile
1 5 10 15

Gln Pro Met Gly Met Ser Pro Arg Gly His Leu Thr Ser Leu Gln Asp
20 25 30

10 Ala Met Cys Glu Thr Met Glu Gln Gln Leu Ser Ser Asp Pro Asp Ser
35 40 45

Asp Pro Asp Xaa
15 50

(2) INFORMATION FOR SEQ ID NO: 272:

20 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 32 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 272:

Met Ala Val Gly Glu Ala Val Phe Val Pro Leu Gln His Pro Pro Leu
1 5 10 15

30 Leu His Gly Ser Pro Ile Pro Lys Leu Leu Pro Gly Pro Leu Leu Xaa
20 25 30

35

(2) INFORMATION FOR SEQ ID NO: 273:

40 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 57 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 273:

Met Asn Gly Cys His Arg Arg Lys Arg Leu His Leu Cys Lys Thr Ile
1 5 10 15

50 Tyr Leu Leu Trp Phe Val Phe Ser Phe Leu Leu Ser Asn Glu Val Val
20 25 30

Ser Ser His Trp His Ile Leu Arg Ala Val Gln Ile Ile Cys Thr Leu
35 40 45

55 Phe His Arg Xaa Ile Ser Ala Phe Xaa
50 55

60 (2) INFORMATION FOR SEQ ID NO: 274:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 22 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 274:

Met Gly Trp Val Ser Ser Pro His Val Lys Arg Arg Glu Cys Val Leu
1 5 10 15
10 Lys Lys Pro Phe Phe Xaa
20

15

(2) INFORMATION FOR SEQ ID NO: 275:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 51 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 275:

25 Met Phe Asn Phe Phe Lys Asn Pro Leu Leu Thr Cys Leu Phe Ile Ser
1 5 10 15
20 Cys Tyr Leu Tyr Leu Ser Leu Leu Val Asn Lys Val Leu Phe Ala Glu
20 25 30
30 Glu Gly Leu Cys Cys Thr Tyr Cys Thr Ser Asn Thr Gly Glu Gly
35 40 45
Gly Val Xaa
50

35

(2) INFORMATION FOR SEQ ID NO: 276:

40

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 276:
Met Xaa
1

50

(2) INFORMATION FOR SEQ ID NO: 277:

55

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 66 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 277:

60 Met Leu Cys Thr Ile Leu Thr Val Val Ile Ile Ile Ala Ala Gln Thr
1 5 10 15

Thr Arg Thr Thr Gly Ile Pro Lys Asn Ala Pro Gly Pro Ala Pro Leu
 20 25 30

5 Cys Ala Pro Arg Ser Pro Arg Leu Phe Leu Gln Xaa Tyr Arg Gly Pro
 35 40 45

Asn Gly Arg Pro Ala His Pro Phe Leu Gly Pro Ser Asp Leu Asp Thr
 50 55 60

10 Ser Xaa
 65

15 (2) INFORMATION FOR SEQ ID NO: 278:

(i) SEQUENCE CHARACTERISTICS:
 20 (A) LENGTH: 257 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 278:

25 Met Leu Gly Ala Lys Pro His Trp Leu Pro Gly Pro Leu His Ser Pro
 1 5 10 15

Gly Leu Pro Leu Val Leu Val Leu Leu Ala Leu Gly Ala Gly Trp Ala
 20 25 30

30 Gln Glu Gly Ser Glu Pro Val Leu Leu Glu Gly Glu Cys Leu Val Val
 35 40 45

Cys Glu Pro Gly Arg Ala Ala Ala Gly Gly Pro Gly Gly Ala Ala Leu
 50 55 60

35 Gly Glu Ala Pro Pro Gly Arg Val Ala Phe Xaa Ala Val Arg Ser His
 65 70 - 75 80

40 His His Glu Pro Ala Gly Glu Thr Gly Asn Gly Thr Ser Gly Ala Ile
 85 90 95

Tyr Phe Asp Gln Val Leu Val Asn Glu Gly Gly Phe Asp Arg Ala
 100 105 110

45 Ser Gly Ser Phe Val Ala Pro Val Arg Gly Val Tyr Ser Phe Arg Phe
 115 120 125

His Val Val Lys Val Tyr Asn Arg Gln Thr Val Gln Val Ser Leu Met
 130 135 140

50 Leu Asn Thr Trp Pro Val Ile Ser Ala Phe Ala Asn Asp Pro Asp Val
 145 150 155 160

55 Thr Arg Glu Ala Ala Thr Ser Ser Val Leu Leu Pro Leu Asp Pro Gly
 165 170 175

Asp Arg Val Ser Leu Arg Leu Arg Arg Gly Xaa Ser Thr Gly Trp Leu
 180 185 190

60 Glu Ile Leu Lys Phe Leu Trp Leu Pro His Leu Pro Ser Leu Lys Asp

| | | |
|--|-----|-----|
| 195 | 200 | 205 |
| Pro Ser Leu Ser Ser Thr Arg Ile Gln Pro Leu Thr Thr Phe Phe Cys | | |
| 210 | 215 | 220 |
| 5 Pro Leu Leu Pro Xaa Lys Gln Xaa Lys Gln Xaa Xaa Xaa Ser Leu Trp | | |
| | 225 | 230 |
| 10 Leu Leu Ser His Leu Phe Ala Trp Glu Pro Val Pro Asn Thr Gln Val | | |
| 245 | 250 | 255 |
| Xaa | | |

15

(2) INFORMATION FOR SEQ ID NO: 279:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 103 amino acids
 (B) TYPE: amino acid
 (C) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 279:

| | | |
|--|----|----|
| 25 Met Ala Pro Arg Ala Leu Pro Gly Ser Ala Val Leu Ala Ala Val | 10 | 15 |
| 1 | 5 | |
| Phe Val Gly Gly Ala Val Ser Ser Pro Leu Val Ala Pro Asp Asn Gly | | |
| 20 | 25 | 30 |
| 30 Ser Ser Arg Thr Leu His Ser Arg Thr Glu Thr Thr Pro Ser Pro Ser | | |
| 35 | 40 | 45 |
| 35 Asn Asp Thr Gly Asn Gly His Pro Glu Tyr Ile Ala Tyr Ala Leu Val | | |
| 50 | 55 | 60 |
| Pro Val Phe Phe Ile Met Gly Leu Phe Gly Val Leu Ile Xaa Pro Xaa | | |
| 65 | 70 | 75 |
| 80 | | |
| 40 Xaa Xaa Lys Lys Lys Gly Tyr Arg Cys Thr Thr Glu Ala Glu Gln Asp | | |
| 85 | 90 | 95 |
| Ile Glu Glu Glu Lys Gly Xaa | | |
| 100 | | |

45

(2) INFORMATION FOR SEQ ID NO: 280:

50 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 33 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 280:

| | | |
|--|----|----|
| 55 Met Pro Val Thr Leu Ser Ser Leu Gly Phe Trp Val Leu Leu Ser Leu | | |
| 1 | 5 | 10 |
| 15 | | |
| 60 Leu Phe Pro Trp Arg Thr Asp Gln Gly Cys Gly Pro Ala Thr Cys Tyr | | |
| 20 | 25 | 30 |

Xaa

5

(2) INFORMATION FOR SEQ ID NO: 281:

10 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 43 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 281:

15 Met Val Leu Gly Leu Leu Leu Leu Xaa Phe Phe Ser Phe Ser Ser
 1 5 10 15

 Ser Pro Ser Pro Ser Ser Ser Leu Leu Leu Leu Ser Ser Phe Phe Phe
 20 25 30

 20 Gln Ser Leu Ala Leu Ser Pro Arg Leu Glu Xaa
 35 40

25

(2) INFORMATION FOR SEQ ID NO: 282:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 21 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 282:

Glu Trp Leu Val Phe Thr Phe Leu Leu Val Phe Gly Ser Pro Leu Gly
 35 1 5 10 15

 Lys Gly Pro Leu Xaa
 20

40

| | |
|----|--|
| 50 | Met Ile Arg Ala Leu Ser Leu Phe Leu Leu Ile Phe Asp Ala Ala Leu |
| | 1 5 10 15 |
| 55 | Phe Ser Leu Ser Val Phe Val Phe Ile Gly His Leu Leu Pro Met Pro |
| | 20 25 30 |
| 60 | Lys Gly Thr Gly Leu His Ser Cys Ala Lys His Leu Ile Lys Ser Leu |
| | 35 40 45 |
| | Lys Glu Asn Val Leu Pro Leu Met Asn Tyr Pro Asp Cys Lys Leu Lys |
| | 50 55 60 |

Ile Asn Ile Ser Pro Xaa
65 70

5

(2) INFORMATION FOR SEQ ID NO: 284:

- (i) SEQUENCE CHARACTERISTICS:
10 (A) LENGTH: 75 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 284:

15 Met Gly Lys Leu Ile Arg Leu Ser Val Met Val Met Ser Val Arg Arg
1 5 15

Leu Phe Ser Ile Tyr Trp Val Leu Ser Thr Val Pro Asp Ala Val Gly
20 25 30

20 Ser Arg Gly Gly Met Glu Glu Glu Cys Ser Arg Gly Leu Cys Cys Val
35 40 45

25 Ala Gly Gln His Lys Gln Ala Lys Gly Lys Arg Gln Ala Trp Asn Lys
50 55 60

Gly Gly Glu Tyr Gln Cys Val Thr Tyr Cys Xaa
65 70 75

30

(2) INFORMATION FOR SEQ ID NO: 285:

- (i) SEQUENCE CHARACTERISTICS:
35 (A) LENGTH: 33 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 285:

40 Met Pro Ala Leu Val Thr Leu Leu Leu Phe Pro Leu Leu Pro Leu
1 5 15

Met Glu Ala Ser Cys His Val Met Arg Cys Pro Met Glu Arg Pro Thr
20 25 30

45 Xaa

50

(2) INFORMATION FOR SEQ ID NO: 286:

- (i) SEQUENCE CHARACTERISTICS:
55 (A) LENGTH: 17 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 286:

60 Glu Ala Pro Trp Gly Leu Leu Lys Leu Leu Leu Leu Ala Val Phe
60 1 15

Xaa

5

(2) INFORMATION FOR SEQ ID NO: 287:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 17 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 287:

15 Met Gln Gln Lys Gln Lys Lys Ala Asn Glu Lys Lys Glu Glu Pro Lys
1 5 10 15

Xaa

20

(2) INFORMATION FOR SEQ ID NO: 288:

25 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 38 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 288:

30 Met Gln Arg Lys Val Ser Asp Phe Ile Ile His Gln Arg Leu Thr Val
1 5 10 15

35 Asn Leu Cys Val Ile Ser Phe Phe Phe Leu Pro Ile Cys Ile Phe
20 25 30

Ser Leu Ala Lys Lys Xaa
35

40

(2) INFORMATION FOR SEQ ID NO: 289:

(i) SEQUENCE CHARACTERISTICS:

- 45 (A) LENGTH: 12 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 289:

50 Met Ala Leu Leu Ile Ser Ser Leu Ile Trp Ser Xaa
1 5 10

55 (2) INFORMATION FOR SEQ ID NO: 290:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 35 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 290:

Met Gln Met Phe Thr Val Ser Leu Leu Leu Ser Leu Leu Leu Arg Ser
1 5 10 15
5 Thr Asp Gln Asn His Leu Gln Leu Leu Val Gly Arg Glu Asp His Tyr
20 25 30
10 Gly Gly Xaa
35

(2) INFORMATION FOR SEQ ID NO: 291:

15 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 291:

Met Ser Glu Ser Ala Cys Ile Leu Asn Asn Gln Lys Glu Leu Xaa
1 5 10 15

25 (2) INFORMATION FOR SEQ ID NO: 292:
30 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 44 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 292:

35 Met Asp Leu Asp Arg Val Lys Ala Glu Ala Thr Glu Asp Ile Thr Ser
1 5 10 15
Gly Val Leu Cys Leu Leu Phe Leu Arg Leu Pro Pro Asn Ser Cys Ile
20 25 30
40 Phe Pro Ser Ala Val Leu Gly Ser Thr Arg Thr Xaa
35 40

45 (2) INFORMATION FOR SEQ ID NO: 293:
50 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 136 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 293:

55 Val Val Gly Thr Gly Thr Ser Leu Ala Leu Ser Ser Leu Leu Ser Leu
1 5 10 15
Leu Leu Phe Ala Gly Met Gln Met Tyr Ser Arg Gln Leu Ala Ser Thr
20 25 30
60 Glu Trp Leu Thr Ile Gln Gly Gly Leu Leu Gly Ser Gly Leu Phe Val

| | | | | |
|----|---|-----|-----|----|
| | 35 | 40 | 45 | |
| | Phe Ser Leu Thr Ala Phe Asn Asn Leu Glu Asn Leu Val Phe Gly Lys | | | |
| | 50 | 55 | 60 | |
| 5 | Gly Phe Gln Ala Lys Ile Phe Pro Glu Ile Leu Leu Cys Leu Leu Leu | | | |
| | 65 | 70 | 75 | 80 |
| | Ala Leu Phe Ala Ser Gly Leu Ile His Arg Val Cys Val Thr Thr Cys | | | |
| 10 | 85 | 90 | 95 | |
| | Phe Ile Phe Ser Met Val Gly Leu Tyr Tyr Ile Asn Lys Ile Ser Ser | | | |
| | 100 | 105 | 110 | |
| 15 | Thr Leu Tyr Gln Ala Ala Ala Pro Val Leu Thr Pro Ala Lys Val Thr | | | |
| | 115 | 120 | 125 | |
| | Gly Lys Ser Lys Lys Arg Asn Xaa | | | |
| 20 | 130 | 135 | | |

(2) INFORMATION FOR SEQ ID NO: 294:

| | | | | |
|----|---|----|----|----|
| 25 | (i) SEQUENCE CHARACTERISTICS: | | | |
| | (A) LENGTH: 34 amino acids | | | |
| | (B) TYPE: amino acid | | | |
| | (D) TOPOLOGY: linear | | | |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 294: | | | |
| 30 | Met Phe Ile Phe Leu Phe Leu Cys Val Leu Ser Arg Lys Ile Gln Glu | | | |
| | 1 | 5 | 10 | 15 |
| | Glu Tyr Tyr Arg Leu Phe Lys Asn Val Pro Cys Cys Phe Gly Cys Leu | | | |
| 35 | 20 | 25 | 30 | |
| | Arg Xaa | | | |

40

(2) INFORMATION FOR SEQ ID NO: 295:

| | | | | |
|----|---|----|----|----|
| 45 | (i) SEQUENCE CHARACTERISTICS: | | | |
| | (A) LENGTH: 137 amino acids | | | |
| | (B) TYPE: amino acid | | | |
| | (D) TOPOLOGY: linear | | | |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 295: | | | |
| 50 | Met Arg Thr Pro Gly Pro Leu Pro Val Leu Leu Leu Leu Ala Gly | | | |
| | 1 | 5 | 10 | 15 |
| | Ala Pro Ala Ala Arg Pro Thr Pro Pro Thr Cys Tyr Ser Arg Met Arg | | | |
| 55 | 20 | 25 | 30 | |
| | Ala Leu Ser Gln Glu Ile Thr Arg Asp Phe Asn Leu Leu Gln Val Ser | | | |
| | 35 | 40 | 45 | |
| 60 | Glu Pro Ser Glu Pro Cys Val Arg Tyr Leu Pro Arg Leu Tyr Leu Asp | | | |
| | 50 | 55 | 60 | |

Ile His Asn Tyr Cys Val Leu Asp Lys Leu Arg Asp Phe Val Ala Ser
65 70 75 80

5 Pro Pro Cys Trp Lys Val Ala Gln Val Asp Ser Leu Lys Asp Lys Ala
85 90 95

Arg Lys Leu Tyr Thr Ile Met Asn Ser Phe Cys Arg Arg Asp Leu Val
100 105 110

10 Phe Leu Leu Asp Asp Cys Asn Ala Leu Glu Tyr Pro Ile Pro Val Thr
115 120 125

Thr Val Leu Pro Asp Arg Gln Arg Xaa
15 130 135

20 (2) INFORMATION FOR SEQ ID NO: 296:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 58 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 296:

Met Trp Leu Leu Lys Pro Ser Ala His Ser Pro Val His Xaa Leu Val
1 5 10 15

30 Leu Leu Phe Pro Arg Gly Trp Ser Gln Pro Gly Thr His Lys Arg Gln
20 25 30

Ile Leu Val Asn Xaa Ala Ser Leu Pro Gly Gly Cys Leu Leu Pro Trp
35 40 45

35 Ile Trp Ser Gly Ala Ala Leu Arg Phe Xaa
50 55

40 (2) INFORMATION FOR SEQ ID NO: 297:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 35 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 297:

Met Ser Arg Arg Ala Glu Ala Ser Ile Phe Val Leu Pro Lys Thr Leu
50 1 5 10 15

Leu Phe Val Leu Phe Pro Ala Phe Pro Ser Pro Ala Val Gly Cys Pro
20 25 30

55 Val Pro Xaa
35

60 (2) INFORMATION FOR SEQ ID NO: 298:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 78 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 298:

| | |
|----|---|
| 10 | Ser Cys Tyr Ile Thr Pro Trp Ser Lys Ile Gln Ser Phe Ser Leu Ser |
| | 1 5 10 15 |
| | Leu Phe Gln Phe Ile Leu Gln Glu Val Asn Ile Thr Leu Pro Glu Asn |
| | 20 25 30 |
| 15 | Ser Val Trp Tyr Glu Arg Tyr Lys Phe Asp Ile Pro Val Phe His Leu |
| | 35 40 45 |
| | Asn Gly Gln Phe Leu Met Met His Arg Val Asn Thr Ser Lys Leu Glu |
| | 50 55 60 |
| 20 | Lys Gln Leu Leu Lys Leu Glu Gln Gln Ser Thr Gly Xaa Xaa |
| | 65 70 75 |

25 (2) INFORMATION FOR SEO ID NO: 299:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 95 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 299:

| | |
|----|--|
| 35 | Met Phe Val Leu Phe Ser Leu Pro Lys Tyr Ala Gly Leu Arg Leu Pro |
| | 1 5 10 15 |
| 40 | Ile Pro Gly Leu Ser Ala Leu Leu Val Phe Leu Leu Ser Leu Phe Ser |
| | 20 25 30 |
| 45 | Arg Arg Ala Gln Val Glu Leu Thr Thr Gly Arg Glu Thr Leu Pro Lys |
| | 35 40 45 |
| 50 | Asn Leu Gln Gly Tyr Phe Pro Glu Phe Gly Phe Gln Val Gln Asn Phe |
| | 50 55 60 |
| 55 | Leu Ser Cys Lys Ile Tyr Ala Ala Ser Gln Lys Gln Pro Leu Pro Pro |
| | 65 70 75 80 |
| 60 | Leu Tyr Gln Leu Arg Phe Tyr Leu Lys His Met Gly Leu Pro Xaa |
| | 85 90 95 |

(2) INFORMATION FOR SEO ID NO: 300:

55 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 44 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 300:

60

Met Ser Ser His Trp Thr Leu Lys Ile Leu Leu Val Pro Leu Phe Tyr
1 5 10 15

Leu Ser Leu Glu Phe Pro Ser Gly Phe Val Leu Cys Leu Ala Asn Asp
5 20 25 30

Leu Gly Tyr His Phe Ser Ser Arg Val Arg Ser Xaa
35 40

10

(2) INFORMATION FOR SEQ ID NO: 301:

(i) SEQUENCE CHARACTERISTICS:
15 (A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 301:

20 Met Leu Val Val Asn Ile Asn Leu Val Phe Leu Leu Phe Phe Ile Phe
1 5 10 15

Leu Cys Tyr Leu Asp Ala Cys Ile Asn Val Phe Cys Phe Tyr Xaa
25 20 25 30

25

(2) INFORMATION FOR SEQ ID NO: 302:

30 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 113 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 302:

35 Met Pro Val Leu Pro Gly Arg Thr Thr Ala Leu Leu Ser Leu Thr Leu
1 5 10 15

Ala Phe Ala Val Pro Cys Ser Gly Val Glu Ala Gly Pro Cys Val Pro
40 20 25 30

Arg Ser His Gly Cys Ser Ser Trp Glu Ala Ser Val Cys Val Thr Ser
35 40 45

45 Ser Thr Pro Gly Gly Ser Trp Arg Ala Arg Ala Leu Phe Pro Ser Ala
50 55 60

Ala Trp His Arg Xaa Ala Ala Trp Asp Ser Pro Trp Thr Gln Thr Gly
65 70 75 80

50 Asp Phe Ala Arg Gly Ala Met Gly Gly Ala Gly Ala Leu Pro Gly Gly
85 90 95

55 Cys Val Cys Ile Ser Gly Arg Pro Arg Ala Gln Lys Leu Pro Ala Leu
100 105 110

Xaa

(2) INFORMATION FOR SEQ ID NO: 303:

- 5 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 14 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 303:

10 Thr His Ile His Thr His Ile Ile Ile Cys Ser Ser Val Xaa
 1 5 10

15 (2) INFORMATION FOR SEQ ID NO: 304:

- 15 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 35 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 304:

Met Glu Asn Phe Phe Phe Ser Phe Tyr Leu Phe Leu Ile Thr Leu Ile
1 5 10 15
20 Pro Asn Gly Arg Thr Leu Ser Thr Thr Ala Asp His Cys Lys Ile Pro
 20 25 30

Cys Ile Xaa
30 35

35 (2) INFORMATION FOR SEQ ID NO: 305:

- 35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 35 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 305:

Met Glu Leu Trp Glu Leu Ala Leu Cys Leu Leu Val Ala Leu Ser Ala
1 5 10 15
45 His Met Phe Thr Val Gln Leu Leu Ala Asp Leu Gly Phe Leu Phe Gly
 20 25 30

Gly Phe Xaa
50 35

55 (2) INFORMATION FOR SEQ ID NO: 306:

- 55 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 82 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 306:

521

(2) INFORMATION FOR SEC ID NO: 307:

45 (2) INFORMATION FOR SEQ ID NO: 308:

50 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 34 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 308;

55 Met Asp Ser Thr Leu Arg Gln Gly Arg Xaa Leu Leu Thr Leu Val Pro
 1 5 10 15

Ala Ser Leu Phe Ser Leu Thr Leu Gly Gly Pro Gly Pro Trp Lys Asp
 20 25 30

60 Pro Xaa

5 (2) INFORMATION FOR SEQ ID NO: 309:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 115 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 309:

Met Gln Val Val Gly Ser Trp Pro Gly Arg Val Gly Val Val Gly Leu
1 5 10 15

15 Ala Phe Ser Leu Val Ile Pro Pro Pro Ala Ile Cys Ile Ala Gly Pro
20 25 30

20 Ala Pro Gly Leu Gly Gly Glu Arg Gln Gln Lys Gly Leu Gly Arg
35 40 45

Gly Gly Gly Leu Arg Asn Cys Pro Gly Arg Val Gly Met Ala Ala
50 55 60

25 Glu Pro Gly Ala Leu Leu Cys Leu Thr Ser Arg Asp Gly Ser Leu Leu
65 70 75 80

Leu Ser Cys Val Arg Pro His His Val Ile Lys Pro Lys Gly Thr Ala
85 90 95

30 Lys Xaa Xaa
100 105 110

35 Gly Gly Xaa
115

40 (2) INFORMATION FOR SEQ ID NO: 310:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 108 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 310:

Met Asp Leu Pro Gln Phe Ile Tyr Leu Phe Ile Phe Cys Phe Cys Cys
1 5 10 15

50 Leu Ala Ile Val Asn Asn Ala Ser Ile Asn Ile His Ile Gln Val Ser
20 25 30

Met Trp Leu Tyr Val Phe Ile Ser Leu Gly Tyr Leu His Gly Ser Arg
35 40 45

55 Ile Leu Gly His Asn Ile Ile Leu Cys Leu Thr Ser Gln Arg Ile Ala
50 55 60

60 Lys Arg Phe Phe Ile Val Ala Ala Ser Phe Thr Phe Pro Pro Ala Met
65 70 75 80

Tyr Lys Asp Phe Tyr Phe Ser Ile Ser Leu His Leu Pro Thr Leu Leu
85 90 95

5 Phe Xaa Xaa Xaa Phe Val Phe Ser Leu Leu Pro Pro
100 105

10 (2) INFORMATION FOR SEQ ID NO: 311:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 65 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 311:

Met Cys Ser Pro Ser Leu Ser Ser Pro Pro Pro Pro Leu Leu Gln Val
1 5 10 15

20 Phe Phe Phe Phe Phe Ser Pro His Trp Ala Ala Lys Val Val Pro
20 25 30

25 Gln Trp Lys Xaa Arg His Pro Gln Val Ser Ser Gln Leu Leu Cys
35 40 45

Phe Leu Arg Val Asn Cys Gln Phe Leu Phe Leu Gln Glu Ile Leu Phe
50 55 60

30 Xaa
65

35 (2) INFORMATION FOR SEQ ID NO: 312:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 50 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 312:

Met Cys Leu Ser Arg Trp Lys Ile Phe Tyr Thr Leu Leu Ile Leu Phe
1 5 10 15

45 Xaa Xaa Phe Ser Ile Thr Ser Glu Xaa Glu Thr Phe Tyr Met Ile Ile
20 25 30

50 Ile His His Asn Pro Thr Gln Ile Thr Ala Ser Cys Ser Phe Thr Phe
35 40 45

Leu Xaa
50

55

(2) INFORMATION FOR SEQ ID NO: 313:

(i) SEQUENCE CHARACTERISTICS:

- 60 (A) LENGTH: 293 amino acids

(B) TYPE: amino acid
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 313:

| | | | | | |
|----|---|-----|-----|-----|--|
| 5 | Met Glu Arg Pro Asp Trp Glu Thr Ala Ile Gln Lys Pro Leu Cys Ser | | | | |
| | 1 | 5 | 10 | 15 | |
| | Leu Pro Ala Gly Ser Gly Asn Ala Leu Ala Ala Ser Leu Asn His Tyr | | | | |
| | 20 | 25 | 30 | | |
| 10 | Ala Gly Tyr Xaa Gln Val Thr Asn Glu Asp Leu Leu Thr Asn Cys Thr | | | | |
| | 35 | 40 | 45 | | |
| 15 | Leu Leu Leu Cys Arg Arg Leu Leu Ser Pro Met Asn Leu Leu Ser Leu | | | | |
| | 50 | 55 | 60 | | |
| | His Thr Ala Ser Gly Leu Arg Leu Phe Ser Val Leu Ser Leu Ala Trp | | | | |
| | 65 | 70 | 75 | 80 | |
| 20 | Gly Phe Ile Ala Asp Val Asp Leu Glu Ser Glu Lys Tyr Arg Arg Leu | | | | |
| | 85 | 90 | 95 | | |
| | Gly Glu Met Arg Phe Thr Leu Gly Thr Phe Leu Arg Leu Ala Ala Leu | | | | |
| | 100 | 105 | 110 | | |
| 25 | Arg Thr Tyr Arg Gly Arg Leu Ala Tyr Leu Pro Val Gly Arg Val Gly | | | | |
| | 115 | 120 | 125 | | |
| 30 | Ser Lys Thr Pro Ala Ser Pro Val Val Gln Gln Gly Pro Val Asp | | | | |
| | 130 | 135 | 140 | | |
| | Ala His Leu Val Pro Leu Glu Glu Pro Val Pro Ser His Trp Thr Val | | | | |
| | 145 | 150 | 155 | 160 | |
| 35 | Val Pro Asp Glu Asp Phe Val Leu Val Leu Ala Leu Leu His Ser His | | | | |
| | 165 | 170 | 175 | | |
| | Leu Gly Ser Glu Met Phe Ala Ala Pro Met Gly Arg Cys Ala Ala Gly | | | | |
| | 180 | 185 | 190 | | |
| 40 | Val Met His Leu Phe Tyr Val Arg Ala Gly Val Ser Arg Ala Met Leu | | | | |
| | 195 | 200 | 205 | | |
| 45 | Leu Arg Leu Phe Leu Ala Met Glu Lys Gly Arg His Met Glu Tyr Glu | | | | |
| | 210 | 215 | 220 | | |
| | Cys Pro Tyr Leu Val Tyr Val Pro Val Val Ala Phe Arg Leu Glu Pro | | | | |
| | 225 | 230 | 235 | 240 | |
| 50 | Lys Asp Gly Lys Gly Val Phe Ala Val Asp Gly Glu Leu Met Val Ser | | | | |
| | 245 | 250 | 255 | | |
| | Glu Ala Val Gln Gly Gln Val His Pro Asn Tyr Phe Trp Met Val Ser | | | | |
| | 260 | 265 | 270 | | |
| 55 | Gly Cys Val Glu Pro Pro Pro Ser Trp Lys Pro Gln Gln Met Pro Pro | | | | |
| | 275 | 280 | 285 | | |
| 60 | Pro Glu Glu Pro Leu | | | | |
| | 290 | | | | |

(2) INFORMATION FOR SEQ ID NO: 314:

5

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 68 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 314:

Met Pro Leu Glu Gly Phe Cys Leu Val Leu Asp Ile Gly Phe Leu Leu
1 5 10 15

15 Val Met Leu Ile Ser Leu Ala Ser Glu Cys Phe Thr Thr Cys Leu Asp
20 25 30

Ser Phe Ser Thr Thr Glu Pro Gly Cys Lys Phe Tyr Lys Leu Leu His
35 40 45

20 Ser Val Ser Leu Leu Asn Ile Asn Phe Asn Val Lys Ser Leu Leu Cys
50 55 60

25 Ser His Ile Xaa
65

(2) INFORMATION FOR SEQ ID NO: 315:

30

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 105 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 315:

Met Pro Leu Gln Leu Ser Gly Gln Tyr Trp Ile Ser Leu Leu Val Phe
1 5 10 15

40 Leu Ser Leu Gln Pro Phe Pro Gln Ala Ala Ile Pro Cys Ala Leu Thr
20 25 30

Asp Val Gly Gly Ser Cys Val Ile Cys His Ile Leu Leu Asn Cys Leu
35 40 45

45 Cys Ile Leu Phe Thr Leu Thr Ala Pro Ser Leu Ser His Val Leu Leu
50 55 60

50 Ile Lys Met Ser Leu Ser Val Cys Tyr Glu Pro Gly Ala Asp Leu Ser
65 70 75 80

Asp Arg Ala Ala Thr Gly Asn Lys Lys Leu Thr Arg Ser Thr Cys Leu
85 90 95

55 Leu Met His Ser Asn Lys Leu Cys Xaa
100 105

60 (2) INFORMATION FOR SEQ ID NO: 316:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 71 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 316:

Met Trp Gly Cys Ser Gly Leu Gly His Arg Thr Val Ser Phe Leu Leu
1 5 10 15

10 Leu Leu Pro Cys Ser Phe Pro Arg Pro Cys Xaa Leu Phe Gly Leu Ile
20 25 30

15 Pro Ile Ser Arg Pro Cys Lys Val Glu Ala Pro Arg Leu Ser Val Pro
35 40 45

Xaa Leu Ser Cys Ala Ser His Pro Tyr Cys Asn Cys Pro Met Ser Thr
50 55 60

20 Ser Cys Pro Leu Pro Arg Xaa
65 70

25 (2) INFORMATION FOR SEQ ID NO: 317:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 317:

Met Leu Asn Val Leu Ser Lys Val Gln Gln Leu Val Ser Xaa Leu Gly
1 5 10 15

35 Leu Val Thr Phe Leu Leu Asn His Ser Ala Ala Gly Gly Ser Pro Gln
20 25 30

40 His Arg Trp Leu Leu Leu Xaa
35

45 (2) INFORMATION FOR SEQ ID NO: 318:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 72 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 318:

Met Lys Ala Ile Ala Arg Ala Cys Leu Leu Leu Ser Leu Leu Val Leu
1 5 10 15

55 Pro His Val Val Ser Glu His Leu Phe Trp His His Asn Pro Arg His
20 25 30

Pro Val Ile Trp Pro Phe Pro Pro Phe His Leu Ile Ser Cys Ser Val
35 40 45

60

Ser Ala Ser Thr Trp His Leu Gly Glu Xaa Leu Leu Leu Val Pro
50 55 60

Ile Ala Pro Ser Val Trp Ser Xaa
5 65 70

(2) INFORMATION FOR SEQ ID NO: 319:

10 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 62 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 319:

Met Glu Gln Gly Gly Gly Pro Arg Leu Leu Leu Ile Pro Gly Leu
1 5 10 15

20 Leu His Asn Thr Tyr Leu Ala Arg Pro Gly Asp Phe Pro Ala Gln Gly
20 25 30

Thr Thr Glu Asn Thr Glu Cys Gln Gly Ser Pro Ser Pro Ile Ser His
35 40 45

25 Leu Gly Lys Val Arg Ser Leu Asp Ser Asn Thr Gln Ile Xaa
50 55 60

30 (2) INFORMATION FOR SEQ ID NO: 320:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 286 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 320:

Met Pro Leu Leu Phe Phe Ser Val Ser Thr Leu Phe Ser Gly Ser Val
40 1 5 10 15

Thr Leu Gln Gln Arg Gly Met Phe Leu Pro Trp Thr Gly Thr Gly Glu
20 25 30

45 Gln Val Leu Ala Leu Leu Trp Pro Arg Phe Glu Leu Ile Leu Glu Met
35 40 45

Asn Val Gln Ser Val Arg Ser Thr Asp Pro Gln Arg Leu Gly Gly Leu
50 55 60

50 Asp Thr Arg Pro His Tyr Ile Thr Arg Arg Tyr Ala Glu Phe Ser Ser
65 70 75 80

55 Ala Leu Val Ser Ile Asn Gln Thr Ile Pro Asn Glu Arg Thr Met Gln
85 90 95

Leu Leu Gly Gln Leu Gln Val Glu Val Glu Asn Phe Val Leu Arg Val
100 105 110

60 Ala Ala Glu Phe Ser Ser Arg Lys Glu Gln Leu Val Phe Leu Ile Asn

| | | | |
|----|---|-----|-----|
| | 115 | 120 | 125 |
| | Asn Tyr Asp Met Met Leu Gly Val Leu Met Glu Arg Ala Ala Asp Asp | | |
| | 130 | 135 | 140 |
| 5 | Ser Lys Glu Val Glu Ser Phe Gln Gln Leu Leu Asn Ala Arg Thr Gln | | |
| | 145 | 150 | 155 |
| | 160 | | |
| 10 | Glu Phe Ile Glu Glu Leu Leu Ser Pro Pro Phe Gly Gly Leu Val Ala | | |
| | 165 | 170 | 175 |
| | Phe Val Lys Glu Ala Glu Ala Leu Ile Glu Arg Gly Gln Ala Glu Arg | | |
| | 180 | 185 | 190 |
| 15 | Leu Arg Gly Glu Glu Ala Arg Val Thr Gln Leu Ile Arg Gly Phe Gly | | |
| | 195 | 200 | 205 |
| | Ser Ser Trp Lys Ser Ser Val Glu Ser Leu Ser Gln Asp Val Met Arg | | |
| | 210 | 215 | 220 |
| 20 | Ser Phe Thr Asn Phe Arg Asn Gly Thr Ser Ile Ile Gln Gly Ala Leu | | |
| | 225 | 230 | 235 |
| | 240 | | |
| 25 | Thr Gln Leu Ile Gln Leu Tyr His Arg Phe His Arg Val Leu Ser Gln | | |
| | 245 | 250 | 255 |
| | Pro Gln Leu Arg Ala Leu Pro Ala Arg Ala Glu Leu Ile Asn Ile His | | |
| | 260 | 265 | 270 |
| 30 | His Leu Met Val Glu Leu Lys Lys His Lys Pro Asn Phe Xaa | | |
| | 275 | 280 | 285 |

35 (2) INFORMATION FOR SEQ ID NO: 321:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 55 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 321:

| | | | |
|----|---|----|----|
| | Met Phe Arg Ala Leu Arg Asp Leu Leu Thr His Tyr Pro Gln Gln Ile | | |
| | 1 | 5 | 10 |
| 45 | 15 | | |
| | Leu Leu Gln Val Leu Val Val Met Tyr Gln Val Leu Gln Val Trp Glu | | |
| | 20 | 25 | 30 |
| | Leu Pro Trp Pro Glu Leu Ile His Leu Gln Gly Ile Val Pro Thr Asp | | |
| 50 | 35 | 40 | 45 |
| | Gln Leu His Leu Lys Gln Xaa | | |
| | 50 | 55 | |

55

(2) INFORMATION FOR SEQ ID NO: 322:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 59 amino acids

60

(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 322:

5 Asp Phe Val Pro Val Leu Val Phe Val Leu Ile Lys Ala Asn Pro Pro
1 5 10 15
Cys Leu Leu Ser Thr Val Gln Tyr Ile Ser Ser Phe Tyr Ala Ser Cys
20 25 30
10 Leu Ser Gly Glu Glu Ser Tyr Trp Trp Met Gln Phe Thr Ala Ala Val
35 40 45
Glu Phe Ile Lys Thr Ile Asp Asp Arg Lys Xaa
15 50 55

(2) INFORMATION FOR SEQ ID NO: 323:

20 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 120 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 323:

Met His Pro Ala Arg Lys Leu Leu Ser Leu Leu Phe Leu Ile Leu Met
1 5 10 15
30 Gly Thr Glu Leu Thr Gln Asp Ser Ala Ala Pro Asp Ser Leu Leu Arg
20 25 30
Ser Ser Lys Gly Ser Thr Arg Gly Ser Leu Ala Ala Ile Val Ile Trp
35 40 45
35 Arg Gly Lys Ser Glu Ser Arg Ile Ala Lys Thr Pro Gly Ile Phe Arg
50 55 60
40 Gly Gly Gly Thr Leu Val Leu Pro Pro Thr His Thr Pro Glu Trp Leu
65 70 75 80
Ile Leu Pro Leu Gly Ile Thr Leu Pro Leu Gly Ala Pro Glu Thr Gly
85 90 95
45 Gly Gly Asp Cys Ala Ala Glu Thr Trp Lys Gly Ser Gln Arg Ala Gly
100 105 110
Gln Leu Cys Ala Leu Ala Xaa
115 120
50

(2) INFORMATION FOR SEQ ID NO: 324:

55 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 44 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
60 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 324:

530

Phe Phe Leu Val Val Phe Ser Leu Ser Phe Xaa Pro Ser Val Leu Thr
1 5 10 15

Ser Pro Val His Xaa Pro His Cys Cys Gln Xaa Asp Xaa Ile Leu Phe
5 20 25 30

Lys Asn Thr Leu Xaa Xaa Phe Xaa Ala Lys Tyr Xaa
35 40

10

(2) INFORMATION FOR SEQ ID NO: 325:

(i) SEQUENCE CHARACTERISTICS:
15 (A) LENGTH: 59 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 325:

20 Met Phe Ser Arg Thr Ser Asn Phe Trp Thr Phe Phe Phe Gln Phe Leu
1 5 10 15

Ile Phe Lys Val Phe Leu Val Leu Lys Asn Xaa Phe Thr Ser Gln Lys
25 20 25 30

Ile Xaa Xaa Ile Xaa Xaa Glu Lys Pro Lys Lys Lys Xaa Arg Gly
35 40 45

Gly Arg Ala Pro Ser Pro Gln Gly Gly Pro Xaa
30 50 55

(2) INFORMATION FOR SEQ ID NO: 326:

35 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 326:

Met Gly Leu Leu Ile Phe Met Leu Leu Ile Gly Ile His Ser Gln Cys
1 5 10 15

45 Ser Xaa

50 (2) INFORMATION FOR SEQ ID NO: 327:

(i) SEQUENCE CHARACTERISTICS:
55 (A) LENGTH: 87 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 327:

Met Val Leu Phe Cys Phe Val Leu Phe Cys Phe Val Phe Glu Met Asp.
1 5 10 15

60

Ser Ser Ser Val Thr Gln Ala Gly Val Gln Trp Cys Asp Leu Gly Ser
 20 25 30

5 Leu Gln Ala Pro Pro Pro Gly Phe Ser Pro Phe Ser Cys Leu Ser Leu
 35 40 45

Pro Ser Ser Trp Asp Tyr Arg Arg Pro Pro Pro Arg Pro Ala Asn Phe
 50 55 60

10 Leu Tyr Phe Leu Val Glu Thr Gly Phe His His Val Ser Gln Asp Gly
 65 70 75 80

Leu Asp Leu Leu Thr Ser Xaa
 85

15

(2) INFORMATION FOR SEQ ID NO: 328:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 538 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 328:

25 Met Ser Thr Lys Lys Leu Cys Ile Val Gly Gly Ile Leu Leu Val Phe
 1 5 10 15

30 Gln Ile Ile Ala Phe Leu Val Gly Gly Leu Ile Ala Pro Gly Pro Thr
 20 25 30

Thr Ala Val Ser Tyr Met Ser Val Lys Cys Val Asp Ala Arg Lys Asn
 35 40 45

35 His His Lys Thr Lys Trp Phe Val Pro Trp Gly Pro Asn His Cys Asp
 50 55 60

Lys Ile Arg Asp Ile Glu Glu Ala Ile Pro Arg Glu Ile Glu Ala Asn
 65 70 75 80

40 Asp Ile Val Phe Ser Val His Ile Pro Leu Pro His Met Glu Met Ser
 85 90 95

45 Pro Trp Phe Gln Phe Met Leu Phe Ile Leu Gln Leu Asp Ile Ala Phe
 100 105 110

Lys Leu Asn Asn Gln Ile Arg Glu Asn Ala Glu Val Ser Met Asp Val
 115 120 125

50 Ser Leu Ala Tyr Arg Asp Asp Ala Phe Ala Glu Trp Thr Glu Met Ala
 130 135 140

His Glu Arg Val Pro Arg Lys Leu Lys Cys Thr Phe Thr Ser Pro Lys
 145 150 155 160

55 Thr Pro Glu His Glu Gly Arg Tyr Tyr Glu Cys Asp Val Leu Pro Phe
 165 170 175

60 Met Glu Ile Gly Ser Val Ala His Lys Phe Tyr Leu Leu Asn Ile Arg
 180 185 190

Leu Pro Val Asn Glu Lys Lys Ile Asn Val Gly Ile Gly Glu Ile
 195 200 205

5 Lys Asp Ile Arg Leu Val Gly Ile His Gln Asn Gly Gly Phe Thr Lys
 210 215 220

Val Trp Phe Ala Met Lys Thr Phe Leu Thr Pro Ser Ile Phe Ile Ile
 225 230 235 240

10 Met Val Trp Tyr Trp Arg Arg Ile Thr Met Met Ser Arg Pro Pro Val
 245 250 255

Leu Leu Glu Lys Val Ile Phe Ala Leu Gly Ile Ser Met Thr Phe Ile
 15 260 265 270

Asn Ile Pro Val Glu Trp Phe Ser Ile Gly Phe Asp Trp Thr Trp Met
 275 280 285

20 Leu Leu Phe Gly Asp Ile Arg Gln Gly Ile Phe Tyr Ala Met Leu Leu
 290 295 300

Ser Phe Trp Ile Ile Phe Cys Gly Glu His Met Met Asp Gln His Glu
 305 310 315 320

25 Arg Asn His Ile Ala Gly Tyr Trp Lys Gln Val Gly Pro Ile Ala Val
 325 330 335

Gly Ser Phe Cys Leu Phe Ile Phe Asp Met Cys Glu Arg Gly Val Gln
 30 340 345 350

Leu Thr Asn Pro Phe Tyr Ser Ile Trp Thr Thr Asp Ile Gly Thr Glu
 355 360 365

35 Leu Ala Met Ala Phe Ile Ile Val Ala Gly Ile Cys Leu Cys Leu Tyr
 370 375 380

Phe Leu Phe Leu Cys Phe Met Val Phe Gln Val Phe Arg Asn Ile Ser
 385 390 395 400

40 Gly Lys Gln Ser Ser Leu Pro Ala Met Ser Lys Val Arg Arg Leu His
 405 410 415

Tyr Glu Gly Leu Ile Phe Arg Phe Lys Phe Leu Met Leu Ile Thr Leu
 45 420 425 430

Ala Cys Ala Ala Met Thr Val Ile Phe Phe Ile Val Ser Gln Val Thr
 435 440 445

50 Glu Gly His Trp Lys Trp Gly Gly Val Thr Val Gln Val Asn Ser Ala
 450 455 460

Phe Phe Thr Gly Ile Tyr Gly Met Trp Asn Leu Tyr Val Phe Ala Leu
 465 470 475 480

55 Met Phe Leu Tyr Ala Pro Ser His Lys Asn Tyr Gly Glu Asp Gln Ser
 485 490 495

Asn Gly Met Gln Leu Pro Cys Lys Ser Arg Glu Asp Cys Ala Leu Phe
 60 500 505 510

Val Ser Glu Leu Tyr Gln Glu Leu Phe Ser Ala Ser Lys Tyr Ser Phe
 515 520 525

5 Ile Asn Asp Asn Ala Ala Ser Gly Ile Xaa
 530 535

10 (2) INFORMATION FOR SEQ ID NO: 329:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 202 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 329:

Met Gly Ile Ala Leu Ala Val Leu Gly Trp Leu Ala Val Met Leu Cys
 1 5 10 15

Cys Ala Leu Pro Met Trp Arg Val Thr Ala Phe Ile Gly Ser Asn Ile
 20 25 30

25 Val Thr Ser Gln Thr Ile Trp Glu Gly Leu Trp Met Asn Cys Val Val
 35 40 45

Gln Ser Thr Gly Gln Met Gln Cys Lys Val Tyr Asp Ser Leu Leu Ala
 50 55 60

30 Leu Pro Gln Asp Leu Gln Ala Ala Arg Ala Leu Val Ile Ile Ser Ile
 65 70 75 80

Ile Val Ala Ala Leu Gly Val Leu Leu Ser Val Val Gly Gly Lys Cys
 85 90 95

35 Thr Asn Cys Leu Glu Asp Glu Ser Ala Lys Ala Lys Thr Met Ile Val
 100 105 110

40 Ala Gly Val Val Phe Leu Leu Ala Gly Leu Met Val Ile Val Pro Val
 115 120 125

Ser Trp Thr Ala His Asn Ile Ile Gln Asp Phe Tyr Asn Pro Leu Val
 130 135 140

45 Ala Ser Gly Gln Lys Arg Glu Met Gly Ala Ser Leu Tyr Val Gly Trp
 145 150 155 160

Ala Ala Ser Gly Leu Leu Leu Gly Gly Leu Leu Cys Cys Asn
 165 170 175

50 Cys Pro Pro Arg Thr Asp Lys Pro Tyr Ser Ala Lys Tyr Ser Ala Ala
 180 185 190

55 Arg Ser Ala Ala Ala Ser Asn Tyr Val Xaa
 195 200

60 (2) INFORMATION FOR SEQ ID NO: 330:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 263 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 330:

| | | | | |
|----|---|-----|-----|-----|
| | Met Ala Thr Val Thr Ala Thr Thr Lys Val Pro Glu Ile Arg Asp Val | | | |
| 1 | 1 | 5 | 10 | 15 |
| 10 | Thr Arg Ile Glu Arg Ile Gly Ala His Ser His Ile Arg Gly Leu Gly | | | |
| | 20 | 25 | 30 | |
| 15 | Leu Asp Asp Ala Leu Glu Pro Arg Gln Ala Ser Gln Gly Met Val Gly | | | |
| | 35 | 40 | 45 | |
| 20 | Gln Leu Ala Ala Arg Arg Ala Ala Gly Val Val Leu Glu Met Ile Arg | | | |
| | 50 | 55 | 60 | |
| 25 | Glu Gly Lys Ile Ala Gly Arg Ala Val Leu Ile Ala Gly Gln Pro Gly | | | |
| | 65 | 70 | 75 | 80 |
| 30 | Thr Gly Lys Thr Ala Ile Ala Met Gly Met Ala Gln Ala Leu Gly Pro | | | |
| | 85 | 90 | 95 | |
| 35 | Asp Thr Pro Phe Thr Ala Ile Ala Gly Ser Glu Ile Phe Ser Leu Glu | | | |
| | 100 | 105 | 110 | |
| 40 | Met Ser Lys Thr Glu Ala Leu Thr Gln Ala Phe Arg Arg Ser Ile Gly | | | |
| | 115 | 120 | 125 | |
| 45 | Val Arg Ile Lys Glu Glu Thr Glu Ile Ile Glu Gly Glu Val Val Glu | | | |
| | 130 | 135 | 140 | |
| 50 | Ile Gln Ile Asp Arg Pro Ala Thr Gly Thr Gly Ser Lys Val Gly Lys | | | |
| | 145 | 150 | 155 | 160 |
| 55 | Leu Thr Leu Lys Thr Thr Glu Met Glu Thr Ile Tyr Asp Leu Gly Thr | | | |
| | 165 | 170 | 175 | |
| 60 | Lys Met Ile Xaa Ser Leu Thr Lys Asp Lys Val Gln Ala Gly Asp Val | | | |
| | 180 | 185 | 190 | |
| 65 | Ile Thr Ile Asp Lys Ala Thr Gly Lys Ile Ser Lys Leu Gly Arg Ser | | | |
| | 195 | 200 | 205 | |
| 70 | Phe Thr Arg Ala Arg Glu Leu Arg Arg Tyr Gly Leu Pro Asp Gln Val | | | |
| | 210 | 215 | 220 | |
| 75 | Arg Ala Val Pro Arg Trp Gly Ala Pro Glu Thr Gln Gly Gly Ala | | | |
| | 225 | 230 | 235 | 240 |
| 80 | His Arg Val Pro Ala Arg Asp Arg Arg His Gln Leu Ser His Pro Gly | | | |
| | 245 | 250 | 255 | |
| 85 | Leu Pro Gly Ala Leu Leu Arg | | | |
| | 260 | | | |

60 (2) INFORMATION FOR SEQ ID NO: 331:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 260 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 331:

| | | | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | Met | Leu | Ala | Leu | Leu | Gly | Leu | Ser | Gln | Ala | Leu | Asn | Ile | Leu | Leu | Gly | |
| 1 | | | | | | | 5 | | | | 10 | | | | 15 | | |
| 10 | | Leu | Lys | Gly | Leu | Ala | Pro | Ala | Glu | Ile | Ser | Ala | Val | Cys | Glu | Lys | Gly |
| | | | | | | | 20 | | | 25 | | | | 30 | | | |
| 15 | | Asn | Phe | Asn | Val | Ala | His | Gly | Leu | Ala | Trp | Ser | Tyr | Tyr | Ile | Gly | Tyr |
| | | | | | | | 35 | | | 40 | | | | 45 | | | |
| | Leu | Arg | Leu | Ile | Leu | Pro | Glu | Leu | Gln | Ala | Arg | Ile | Arg | Thr | Tyr | Asn | |
| | | | | | | | 50 | | | 55 | | | | 60 | | | |
| 20 | | Gln | His | Tyr | Asn | Asn | Leu | Leu | Arg | Gly | Ala | Val | Ser | Gln | Arg | Leu | Tyr |
| | | | | | | | 65 | | | 70 | | | | 75 | | 80 | |
| | Ile | Leu | Leu | Pro | Leu | Asp | Cys | Gly | Val | Pro | Asp | Asn | Leu | Ser | Met | Ala | |
| 25 | | | | | | | 85 | | | 90 | | | | 95 | | | |
| | Asp | Pro | Asn | Ile | Arg | Phe | Leu | Asp | Lys | Leu | Pro | Gln | Gln | Thr | Gly | Asp | |
| | | | | | | | 100 | | | 105 | | | | 110 | | | |
| 30 | | Arg | Ala | Gly | Ile | Lys | Asp | Arg | Val | Tyr | Ser | Asn | Ser | Ile | Tyr | Glu | Leu |
| | | | | | | | 115 | | | 120 | | | | 125 | | | |
| | Leu | Glu | Asn | Gly | Gln | Arg | Ala | Gly | Thr | Cys | Val | Leu | Glu | Tyr | Ala | Thr | |
| | | | | | | | 130 | | | 135 | | | | 140 | | | |
| 35 | | Pro | Leu | Gln | Thr | Leu | Phe | Ala | Met | Ser | Gln | Tyr | Ser | Gln | Ala | Gly | Phe |
| | | | | | | | 145 | | | 150 | | | | 155 | | 160 | |
| | Ser | Gly | Glu | Asp | Arg | Leu | Glu | Gln | Ala | Lys | Leu | Phe | Cys | Arg | Thr | Leu | |
| 40 | | | | | | | 165 | | | 170 | | | | 175 | | | |
| | Glu | Asp | Ile | Leu | Ala | Asp | Ala | Pro | Glu | Ser | Gln | Asn | Asn | Cys | Arg | Leu | |
| | | | | | | | 180 | | | 185 | | | | 190 | | | |
| 45 | | Ile | Ala | Tyr | Gln | Glu | Pro | Ala | Asp | Asp | Ser | Ser | Phe | Ser | Leu | Ser | Gln |
| | | | | | | | 195 | | | 200 | | | | 205 | | | |
| | Glu | Val | Leu | Arg | His | Leu | Arg | Gln | Glu | Glu | Lys | Glu | Glu | Val | Thr | Val | |
| | | | | | | | 210 | | | 215 | | | | 220 | | | |
| 50 | | Gly | Ser | Leu | Lys | Thr | Ser | Ala | Val | Pro | Ser | Thr | Ser | Thr | Met | Ser | Gln |
| | | | | | | | 225 | | | 230 | | | | 235 | | 240 | |
| | Glu | Pro | Glu | Leu | Leu | Ile | Ser | Gly | Met | Glu | Lys | Pro | Leu | Pro | Leu | Arg | |
| 55 | | | | | | | 245 | | | 250 | | | | 255 | | | |
| | Thr | Asp | Phe | Ser | | | | | | | | | | | | | |
| | | | | | | | 260 | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO: 332:

(i) SEQUENCE CHARACTERISTICS:

- 5 (A) LENGTH: 48 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 332:

| | | | | |
|----|---|----|----|----|
| 10 | Met Thr Pro Gln Lys Pro Ala Leu Ala Val Leu Leu Leu Glu Val Pro | | | |
| | 1 | 5 | 10 | 15 |
| | Leu Leu Leu Thr Leu Ser Val Leu Lys Lys Arg Cys Leu Val Thr Cys | | | |
| | 20 | 25 | 30 | |
| 15 | Glu Pro Thr Ser Arg Phe Val Ser Cys Asp Leu Pro Leu Ser Val Xaa | | | |
| | 35 | 40 | 45 | |

20

(2) INFORMATION FOR SEQ ID NO: 333:

25 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 334 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 333:

| | | | | |
|----|---|-----|-----|-----|
| 30 | Met Ala Ala Ala Ala Trp Leu Gln Val Leu Pro Val Ile Leu Leu Leu | | | |
| | 1 | 5 | 10 | 15 |
| 35 | Leu Gly Ala His Pro Ser Pro Leu Ser Phe Phe Ser Ala Gly Pro Ala | | | |
| | 20 | 25 | 30 | |
| | Thr Val Ala Ala Ala Asp Arg Ser Lys Trp His Ile Pro Ile Pro Ser | | | |
| | 35 | 40 | 45 | |
| 40 | Gly Lys Asn Tyr Phe Ser Phe Gly Lys Ile Leu Phe Arg Asn Thr Thr | | | |
| | 50 | 55 | 60 | |
| | Ile Phe Leu Lys Phe Asp Gly Glu Pro Cys Asp Leu Ser Leu Asn Ile | | | |
| | 65 | 70 | 75 | 80 |
| 45 | Thr Trp Tyr Leu Lys Ser Ala Asp Cys Tyr Asn Glu Ile Tyr Asn Phe | | | |
| | 85 | 90 | 95 | |
| 50 | Lys Ala Glu Glu Val Glu Leu Tyr Leu Glu Lys Leu Lys Glu Lys Arg | | | |
| | 100 | 105 | 110 | |
| | Gly Leu Ser Gly Lys Tyr Gln Thr Ser Ser Lys Leu Phe Gln Asn Cys | | | |
| | 115 | 120 | 125 | |
| 55 | Ser Glu Leu Phe Lys Thr Gln Thr Phe Ser Gly Asp Phe Met His Arg | | | |
| | 130 | 135 | 140 | |
| | Leu Pro Leu Leu Gly Glu Lys Gln Glu Ala Lys Glu Asn Gly Thr Asn | | | |
| | 145 | 150 | 155 | 160 |

60

Leu Thr Phe Ile Gly Asp Lys Thr Ala Met His Glu Pro Leu Gln Thr
 165 170 175

Trp Gln Asp Ala Pro Tyr Ile Phe Ile Val His Ile Gly Ile Ser Ser
 5 180 185 190

Ser Lys Glu Ser Ser Lys Glu Asn Ser Leu Ser Asn Leu Phe Thr Met
 195 200 205

10 Thr Val Glu Val Lys Gly Pro Tyr Glu Tyr Leu Thr Leu Glu Asp Tyr
 210 215 220

Pro Leu Met Ile Phe Phe Met Val Met Cys Ile Val Tyr Val Leu Phe
 225 230 235 240

15 Gly Val Leu Trp Leu Ala Trp Ser Ala Cys Tyr Trp Arg Asp Leu Leu
 245 250 255

Arg Ile Gln Phe Trp Ile Gly Ala Val Ile Phe Leu Gly Met Leu Glu
 20 260 265 270

Lys Ala Val Phe Tyr Ala Glu Phe Gln Asn Ile Arg Tyr Lys Gly Xaa
 275 280 285

25 Ser Val Gln Gly Ala Leu Ile Leu Ala Glu Leu Leu Ser Ala Val Lys
 290 295 300

Arg Ser Leu Ala Arg Thr Leu Val Ile Ile Val Ser Leu Gly Tyr Gly
 305 310 315 320

30 Ile Val Lys Pro Arg Leu Glu Ser Leu Phe Ile Arg Leu Xaa
 325 330

35

(2) INFORMATION FOR SEQ ID NO: 334:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 200 amino acids

40 (B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 334:

Met Val Leu Xaa Val Val Thr Leu Gly Leu Ala Leu Phe Thr Leu Cys
 45 1 5 10 15

Gly Lys Phe Lys Arg Trp Lys Leu Asn Gly Ala Phe Leu Leu Ile Thr
 20 25 30

50 Ala Phe Leu Ser Val Leu Ile Trp Val Ala Trp Met Thr Met Tyr Leu
 35 40 45

Phe Gly Asn Val Lys Leu Gln Gln Gly Asp Ala Trp Asn Asp Pro Thr
 50 55 60

55 Leu Ala Ile Thr Leu Ala Ala Ser Ala Gly Ser Ser Ser Ser Thr
 65 70 75 80

60 Pro Ser Leu Arg Ser Thr Ala Pro Phe Cys Gln Pro Cys Arg Arg Thr
 85 90 95

Arg Pro Thr Thr Ser Thr Arg Arg Ser Pro Gly Cys Gly Arg Arg Pro
 100 105 110
 5 Ser Arg Arg Thr Cys Ser Cys Arg Gly Pro Ile Trp Arg Thr Arg Pro
 115 120 125
 Ser Pro Trp Met Asn Thr Met Gln Leu Ser Glu Gln Gln Asp Phe Pro
 130 135 140
 10 Thr Ala Ala Trp Glu Lys Asp Pro Val Ala Ala Trp Gly Lys Asp Pro
 145 150 155 160
 Ala Leu Arg Leu Glu Ala Thr Cys Ile Ser Gln Leu Arg Trp Pro Ser
 15 165 170 175
 Cys Ser Thr Val Gly Pro Ser Gln Leu Leu Arg Gln Val Thr Gln Glu
 180 185 190
 20 Xaa Thr Phe Gly Glu Arg Leu Xaa
 195 200

25 (2) INFORMATION FOR SEQ ID NO: 335:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 24 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 335:

Met Leu Leu His His Gln Leu Leu Ile Val Thr Leu His Leu Val Leu
 1 5 10 15
 35 Leu Leu Ala Thr Leu Leu Val Xaa
 20

40 (2) INFORMATION FOR SEQ ID NO: 336:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 143 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 336:

Met Thr Lys Ala Leu Leu Ile Tyr Leu Val Ser Ser Phe Leu Ala Leu
 1 5 10 15
 50 Asn Gln Ala Ser Leu Ile Ser Arg Cys Asp Leu Ala Gln Val Leu Gln
 20 25 30
 55 Leu Glu Asp Leu Asp Gly Phe Glu Gly Tyr Ser Leu Ser Asp Trp Leu
 35 40 45
 60 Cys Leu Ala Phe Val Glu Ser Lys Phe Asn Ile Ser Lys Ile Asn Glu
 50 55 60

Asn Ala Asp Gly Ser Phe Asp Tyr Gly Leu Phe Gln Ile Asn Ser His
65 70 75 80

Tyr Trp Cys Asn Xaa Tyr Lys Ser Tyr Ser Glu Asn Leu Cys His Val
5 85 90 95

Asp Cys Gln Asp Leu Leu Asn Pro Asn Leu Leu Ala Gly Ile His Cys
100 105 110

10 Ala Lys Arg Ile Val Ser Gly Ala Arg Gly Met Asn Asn Trp Val Arg
115 120 125

Met Glu Xaa Cys Thr Val Gln Ala Gly His Ser Ser Thr Gly Xaa
130 135 140

15

(2) INFORMATION FOR SEQ ID NO: 337:

20 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 95 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 337:

25 Met Leu Val Ile Ala Gly Gly Ile Leu Ala Ala Leu Leu Leu Ile
1 5 10 15

30 Val Val Val Leu Cys Leu Tyr Phe Lys Ile His Asn Ala Leu Lys Ala
20 25 30

Ala Lys Glu Pro Glu Ala Val Ala Val Lys Asn His Asn Pro Asp Lys
35 40 45

35 Val Trp Trp Ala Lys Asn Ser Gln Ala Lys Thr Ile Ala Thr Glu Ser
50 55 60

40 Cys Pro Ala Leu Gln Cys Cys Glu Gly Tyr Arg Met Cys Ala Ser Phe
65 70 75 80

Asp Ser Leu Pro Pro Cys Cys Asp Ile Asn Glu Gly Leu Xaa
85 90 95

45 (2) INFORMATION FOR SEQ ID NO: 338:

50 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 38 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 338:

55 Met Leu Leu Lys Ser Asn Ile Leu Met Leu Asn Leu Phe Ala Ala Asn
1 5 10 15

Val Gly Ala Asn Phe Ala Leu Thr Val Glu Lys Ile Gly Met Ile Leu
20 25 30

60 Leu Asn Val Ser Gly Xaa

35

5 (2) INFORMATION FOR SEQ ID NO: 339:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 339:

Met Leu Val Val Ala Phe Gly Leu Leu Val Leu Tyr Ile Leu Leu Ala
1 5 10 15

Ser Ser Trp Lys Arg Pro Glu Pro Gly Ile Leu Thr Asp Arg Gln Pro
20 25 30

Leu Leu His Asp Gly Glu Xaa
20 35

25 (2) INFORMATION FOR SEQ ID NO: 340:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 71 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 340:

Ser Asp Pro Leu Ala Ser Ala Ser Gln Asn Ala Gly Ile Val Ser Val
1 5 10 15

Gly Leu Cys Thr Arg Pro Gly Pro Gln Phe Lys Asn Ala Gln Pro Pro
20 25 30

Phe Pro Xaa Gln Lys Ala Pro Arg Cys Leu Trp Glu Asn Gln Pro Pro
35 40 45

Pro Trp Arg Lys Ala Trp Asp Leu Pro Ser His Leu Gly Arg Arg Gly
50 55 60

Ile Cys Gly Lys Ser Phe Xaa
45 65 70

50 (2) INFORMATION FOR SEQ ID NO: 341:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 85 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 341:

Tyr Val Met Ile Phe Lys Lys Glu Phe Ala Pro Ser Asp Glu Glu Leu
1 5 10 15

Asp Ser Tyr Arg Arg Gly Glu Glu Trp Asp Pro Gln Lys Ala Glu Glu
60

| | | | | |
|----|---|----|----|----|
| | 20 | 25 | 30 | |
| | Lys Arg Asn Xaa Lys Glu Leu Ala Gln Arg Gln Xaa Gly Gly Ser | | | |
| | 35 | 40 | 45 | |
| 5 | Pro Ala Gly Ala Cys Gly Gly Glu Pro Cys Gln Arg Leu Gln Gly Gln | | | |
| | 50 | 55 | 60 | |
| | Val Gln Pro Pro His Arg Gln Gly Ser Ser Gln Arg Arg Ser Pro His | | | |
| 10 | 65 | 70 | 75 | 80 |
| | Ala Thr Gly Gln Xaa | | | |
| | 85 | | | |

15

(2) INFORMATION FOR SEQ ID NO: 342:

| | | | | |
|----|---|----------------------|----------------------|----|
| | (i) SEQUENCE CHARACTERISTICS: | | | |
| 20 | (A) LENGTH: 90 amino acids | (B) TYPE: amino acid | (C) TOPOLOGY: linear | |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 342: | | | |
| 25 | Met Trp Asp Trp Asp Trp Ser Ala Pro Trp Ser Trp Pro Leu Trp Leu | | | |
| | 1 | 5 | 10 | 15 |
| | Ser Leu Ala Leu Val Cys Leu Ser Ala Gly Ala Lys Gly His Arg Ala | | | |
| | 20 | 25 | 30 | |
| 30 | Ser Glu Ala Gly His Ala Arg Ala Leu Thr Cys Glu Met Gly Ser Glu | | | |
| | 35 | 40 | 45 | |
| | Phe Xaa Thr Ala Xaa Gly Leu Val Leu Gly Xaa Xaa Xaa Trp Thr Xaa | | | |
| 35 | 50 | 55 | 60 | |
| | Xaa Asn Gly Ser Ala Gly Pro Glu Arg Arg Gly Trp Arg Pro Ala Ala | | | |
| | 65 | 70 | 75 | 80 |
| 40 | Phe Leu Ala Val Phe Leu Leu Gly Asp Xaa | | | |
| | 85 | 90 | | |

45 (2) INFORMATION FOR SEQ ID NO: 343:

| | | | | |
|----|---|----------------------|----------------------|----|
| | (i) SEQUENCE CHARACTERISTICS: | | | |
| 50 | (A) LENGTH: 48 amino acids | (B) TYPE: amino acid | (C) TOPOLOGY: linear | |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 343: | | | |
| 55 | Met Phe Gly Pro Thr Phe His Ser Leu Val Leu Val Pro Pro Trp Pro | | | |
| | 1 | 5 | 10 | 15 |
| | Asn Leu Ser Leu Leu His Phe Thr Ser Pro Val Gly Gln His Ser Ser | | | |
| | 20 | 25 | 30 | |
| 60 | Phe Leu Pro Thr Ser Leu Arg Leu Xaa Lys Lys Lys Lys Lys Lys | | | |
| | 35 | 40 | 45 | |

5

(2) INFORMATION FOR SEQ ID NO: 344:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 56 amino acids
(B) TYPE: amino acid
(C) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 344:

15 Met Cys Ser Lys Asn Gly Phe Leu Leu Ala Trp Ser Trp Asn Ser Pro
1 5 10 15

Trp Leu Pro Gln Ala Ser Leu Ala His Gly Cys Trp Gly Arg Trp Met
20 25 30

20 Ser Asp Leu Val Gly Cys Ser Arg Glu Asn Lys Cys Ala Leu Arg Asp
 35 40 45

25 His Ser Glu Arg Val Gln Gly Xaa
50 55

(2) INFORMATION FOR SEQ ID NO: 345:

30

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 222 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 345:

Ser Pro Leu Xaa Phe Cys Val Val Leu Leu Leu Gln Ala Ala Arg Gly
 1 5 . 10 15

40 Tyr Val Val Arg Lys Pro Ala Gln Ser Arg Leu Asp Asp Asp Pro Pro
20 25 30

Pro Ser Thr Leu Leu Lys Asp Tyr Gln Asn Val Pro Gly Ile Glu Lys
 35 40 45

50 55 60

50 65 70 75 80

85 90 95

100 105 110

Asp Lys Ala His Lys Arg Tyr Leu Leu Met Ser Ile Asp Gln Arg Lys

60 113 120 125

Lys Met Leu Lys Asn Leu Arg Asn Thr Asn Tyr Asp Val Phe Glu Lys
 130 135 140

Ile Cys Trp Gly Leu Gly Ile Glu Tyr Thr Phe Pro Pro Leu Tyr Tyr
 5 145 150 155 160

Arg Arg Ala His Arg Arg Phe Val Thr Lys Lys Ala Leu Cys Ile Arg
 165 170 175

10 Val Phe Gln Glu Thr Gln Lys Leu Lys Lys Arg Arg Arg Ala Leu Lys
 180 185 190

Ala Ala Ala Ala Ala Gln Lys Gln Ala Lys Arg Arg Asn Pro Asp Ser
 15 195 200 205

Pro Ala Lys Ala Ile Pro Lys Thr Leu Lys Asp Ser Gln Xaa
 210 215 220

20 (2) INFORMATION FOR SEQ ID NO: 346:

(i) SEQUENCE CHARACTERISTICS:
 25 (A) LENGTH: 64 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 346:

Met Gly Ala Pro Ala Ala Ser Leu Leu Leu Leu Leu Leu Phe Ala
 30 1 5 10 15

Cys Cys Trp Ala Pro Gly Gly Ala Asn Leu Ser Gln Asp Asp Ser Gln
 20 25 30

35 Pro Trp Thr Ser Asp Glu Thr Val Val Ala Gly Gly Thr Val Val Leu
 35 40 45

Lys Cys Gln Val Lys Asp His Glu Asp Ser Ser Leu Gln Trp Ser Xaa
 40 50 55 60

45 (2) INFORMATION FOR SEQ ID NO: 347:

(i) SEQUENCE CHARACTERISTICS:
 50 (A) LENGTH: 154 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 347:

Met Val Ala Pro Val Trp Tyr Leu Val Ala Ala Leu Leu Val Gly
 55 1 5 10 15

Phe Ile Leu Phe Leu Thr Arg Ser Arg Gly Arg Ala Ala Ser Ala Gly
 60 20 25 30

Gln Glu Pro Leu His Asn Glu Glu Leu Ala Gly Ala Gly Arg Val Ala

35 40 45

Gln Pro Gly Pro Leu Glu Pro Glu Glu Pro Arg Ala Gly Gly Arg Pro
50 55 60

5 Arg Arg Arg Arg Asp Leu Gly Ser Arg Leu Gln Ala Gln Arg Arg Ala
65 70 75 80

Gln Arg Val Ala Trp Ala Glu Ala Asp Glu Asn Glu Glu Glu Ala Val
10 85 90 95

Ile Leu Ala Gln Glu Glu Gly Val Glu Lys Pro Ala Glu Xaa His
100 105 110

15 Leu Ser Gly Lys Ile Gly Ala Lys Lys Leu Arg Xaa Xaa Glu Glu Lys
115 120 125

Gln Ala Arg Lys Ala Gln Xaa Glu Ala Glu Glu Ala Glu Arg Glu Xaa
20 130 135 140

20 Arg Lys Arg Leu Glu Ser Gln Arg Glu Xaa
145 150

25 (2) INFORMATION FOR SEQ ID NO: 348:

- (i) SEQUENCE CHARACTERISTICS:
30 (A) LENGTH: 17 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 348:

35 Met Gln Lys Cys Met Leu Ser Ala Leu Val Phe His Ile Gln Trp Ser
 1 5 10 15

Xaa

40

(2) INFORMATION FOR SEQ ID NO: 349:

- (i) SEQUENCE CHARACTERISTICS:
45 (A) LENGTH: 10 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 349:

50 Met Leu Val Cys Ser Phe Leu Phe Leu Xaa
 1 5 10

55 (2) INFORMATION FOR SEQ ID NO: 350:

- (i) SEQUENCE CHARACTERISTICS:
60 (A) LENGTH: 14 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 350:

Val Ile Glu Leu Cys Val Ser Leu Arg Ser Leu Asn Phe Xaa
1 5 10

5

(2) INFORMATION FOR SEQ ID NO: 351:

10 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 351:

Met Cys Glu Phe Xaa Xaa Xaa Ile Met Xaa Leu Ala Gly Tyr Phe Ala
1 5 10 15

20 Cys Xaa

(2) INFORMATION FOR SEQ ID NO: 352:

25 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 62 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 352:

Met Val Gly Gly Tyr Val Ser Ser Phe Ser Phe Pro Pro Val Ser Ser
1 5 10 15

35 Ser Leu Leu Leu Pro Ala Ser Phe Ala Phe Pro Phe Leu Pro Gly Thr
20 25 30

Pro Cys Pro Phe Leu Tyr Phe Leu Pro Ser Pro Phe Ser Pro Leu Pro
35 40 45

40 Leu Ser Leu Thr Arg Ser Asn Ser Phe Leu Leu Asn Gly Xaa
50 55 60

45

(2) INFORMATION FOR SEQ ID NO: 353:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 33 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 353:

55 Glu Lys Lys Ser Met Ser Val Ser Asp Ile Tyr Ala Leu Glu Ser Leu
1 5 10 15

Gly Arg Ser Leu Phe Thr Leu Asn Ser Met Cys Leu Pro Leu Ser Phe
20 25 30

60 xaa

5 (2) INFORMATION FOR SEQ ID NO: 354:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 245 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 354:

Met Gly Gly Ala Ser Arg Arg Val Glu Ser Gly Ala Trp Ala Tyr Leu
1 5 10 15

Ser Pro Leu Val Leu Arg Lys Glu Leu Glu Ser Leu Val Glu Asn Glu
15 20 25 30

Gly Ser Glu Val Leu Ala Leu Pro Glu Leu Pro Ser Ala His Pro Ile
20 35 40 45

Ile Phe Trp Asn Leu Leu Tyr Phe Gln Arg Leu Arg Leu Pro Ser
25 50 55 60

Ile Leu Pro Gly Leu Val Leu Ala Ser Cys Asp Gly Pro Ser Xaa Ser
30 65 70 75 80

Gln Ala Pro Ser Pro Trp Leu Thr Pro Asp Pro Ala Ser Val Gln Val
35 85 90 95

Arg Leu Leu Trp Asp Val Leu Thr Pro Asp Pro Asn Ser Cys Pro Pro
40 100 105 110

Leu Tyr Val Leu Trp Arg Val His Ser Gln Ile Pro Gln Arg Val Val
45 115 120 125

Trp Pro Gly Pro Val Pro Ala Ser Leu Ser Leu Ala Leu Glu Ser
50 130 135 140

Val Leu Arg His Val Gly Leu Asn Glu Val His Lys Ala Val Gly Leu
55 145 150 155 160

Leu Leu Glu Thr Leu Gly Pro Pro Pro Thr Gly Leu His Leu Gln Arg
60 165 170 175

Gly Ile Tyr Arg Glu Ile Leu Phe Leu Thr Met Ala Ala Leu Gly Lys
65 180 185 190

Asp His Val Asp Ile Val Ala Phe Asp Lys Lys Tyr Lys Ser Ala Phe
70 195 200 205

Asn Lys Leu Ala Ser Ser Met Gly Lys Glu Glu Leu Arg His Arg Arg
75 210 215 220

Ala Gln Met Pro Thr Pro Lys Ala Ile Asp Cys Arg Lys Cys Phe Gly
80 225 230 235 240

Ala Pro Pro Glu Cys
85 245

(2) INFORMATION FOR SEQ ID NO: 355:

5 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 35 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 355:

| | |
|-------------|--|
| 10 | Met Lys Phe Ser Leu Leu Phe Leu Pro Met Leu Leu Ile Leu Lys Pro |
| | 1 5 10 15 |
| 15 | Asp Leu Phe His Ile Ser Ile Cys Thr Leu Ala Ala Cys Gly Leu Thr |
| | 20 25 30 |
| Phe Pro Xaa | |
| | 35 |

20

(2) INFORMATION FOR SEO ID NO: 356:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 22 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 356:

30 Met Leu Phe Phe Ile Leu His Leu Leu Ser Ile Met Ser Phe Leu
 1 5 10 15

 Ser Pro Asp Ile Met Xaa
 20
 35

55

(2) INFORMATION FOR SEQ ID NO: 357:

40 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 98 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 357:

Met Phe Gly Leu Leu Val Glu Ser Gln Thr Leu Leu Glu Glu Asn Ala
 1 5 10 15

50 Val Gln Gly Thr Glu Arg Thr Leu Gly Leu Asn Ile Ala Pro Phe Ile
20 25 30

Asn Gln Phe Gln Val Pro Ile Arg Val Phe Leu Asp Leu Ser Ser Leu
35 40 45

55 Pro Cys Ile Pro Leu Ser Lys Pro Val Glu Leu Leu Arg Leu Asp Leu
50 55 60

Met Thr Pro Tyr Leu Asn Thr Ser Asn Arg Glu Val Lys Val Tyr Val
65 70 75 80

60

Cys Xaa Ile Trp Glu Asp Leu Thr Ala Ile Pro Phe Trp Val Ser Tyr
85 90 95

5 Val Pro

10 (2) INFORMATION FOR SEQ ID NO: 358:

- (i) SEQUENCE CHARACTERISTICS:

 - (A) LENGTH: 78 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 358:

Met Phe Gly Ala His Arg Xaa Trp Gln Gly Ser Val Leu Leu Phe Leu
 5 10 15

20 Ser Phe Ala Trp Gly Asn Gly Gly Ser Val Thr Phe Ser Asp Val Pro
20 25 30

Arg Val Met Pro Leu Ala Gly Gly Pro Xaa Xaa Gln Val Ser Ser Thr
 35 40 45

25 Pro Arg Pro Pro His Gln Val Thr Ser Ser Pro Gly Leu Glu Ser
50 55 60

30 Ala His Ile Val Cys Pro Glu Arg Lys Lys Lys Lys Lys Lys Lys
65 70 75

35 (2) INFORMATION FOR SEQ ID NO: 359:

- (i) SEQUENCE CHARACTERISTICS:

 - (A) LENGTH: 31 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 359:

Thr Leu Leu Xaa Phe Leu Xaa Leu Leu Thr Thr Glu Gly Gly Arg Glu
 1 5 10 15

45 Asn Ile Phe Xaa Gly Arg Ile Leu Xaa Leu Gln Xaa Ser Pro Xaa
20 25 30

50 (2) INFORMATION FOR SEQ ID NO: 360:

- 55 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 57 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 360:

Met Leu Ser Phe Phe Ile Cys Leu Leu Ile Phe Val His Leu Leu Leu
1 5 10 15

Leu Ser Phe Leu Ile Ser Asp Trp Pro Pro Pro Thr Gly Ser Ala Xaa
20 25 30

His Lys Ile Leu Arg Leu Met Val Val Gln Arg Leu Ser Leu Leu Asp
5 35 40 45

Gln Arg Lys Arg Trp Ser Glu Ala Xaa
50 55

10

(2) INFORMATION FOR SEQ ID NO: 361:

15 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 3 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 361:

20 Lys Tyr Xaa
1

25 (2) INFORMATION FOR SEQ ID NO: 362:

30 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 32 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 362:

Trp Ser Ser Ala Ser Ser Ser Trp Val Thr Thr Pro Glu Arg Ile Arg
1 5 10 15

35 Pro Arg Met Asp Thr Leu Pro Val Lys Gly His Phe Leu Ser Met Xaa
20 25 30

40

45 (2) INFORMATION FOR SEQ ID NO: 363:

50 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 28 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 363:

Asp Ile Phe Val Phe Leu Leu Ser Thr Arg Ala Gly Gly Leu Gly Ile
1 5 10 15

55 Asn Leu Thr Ala Xaa Asp Thr Val His Phe Leu Xaa
20 25

60 (2) INFORMATION FOR SEQ ID NO: 364:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 364:

10 Thr Leu Thr Ser Phe Leu Glu Leu Pro Leu Ala Pro Glu Pro Xaa
1 5 10 15

(2) INFORMATION FOR SEQ ID NO: 365:

15 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 34 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 365:

25 Met His Arg Tyr Ile Thr Phe Phe Lys Cys Phe Arg Ser Val Ile Leu
1 5 10 15

Asp Leu Leu Phe Ile Leu Ser Pro Leu Ser Gln Gly Cys Phe Ile Leu
25 20 25 30
Phe Xaa

30

(2) INFORMATION FOR SEQ ID NO: 366:

35 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 66 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 366:

40 Met Phe Gly Phe Ile Phe Leu Leu Ile Phe Cys Ile Xaa Leu Cys
1 5 10 15

45 Ser Arg Thr Leu Ser Thr Phe Ile Pro Lys Leu Val Gly Phe Leu Tyr
20 25 30
Trp Lys Phe Ser Ile Asn Leu Ser Leu Leu Leu Thr Leu Ile Lys Lys
35 40 45

50 Lys Lys Lys Lys Lys Lys Thr Pro Arg Gly Gly Pro Gly Xaa Gln Ser
50 55 60

Pro Pro
65

55

(2) INFORMATION FOR SEQ ID NO: 367:

60 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 317 amino acids

(B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 367:

| | | | | |
|----|---|-----|-----|-----|
| 5 | Met Pro Gly Leu Gly Arg Pro Arg Gln Ala Arg Trp Thr Leu Met Leu | | | |
| | 1 | 5 | 10 | 15 |
| | Leu Leu Ser Thr Ala Met Tyr Gly Ala His Ala Pro Leu Leu Ala Leu | | | |
| | 20 | 25 | 30 | |
| 10 | Cys His Val Asp Gly Arg Val Pro Phe Arg Pro Ser Ser Ala Val Leu | | | |
| | 35 | 40 | 45 | |
| 15 | Leu Thr Glu Leu Thr Lys Leu Leu Cys Ala Phe Ser Leu Leu Val | | | |
| | 50 | 55 | 60 | |
| | Gly Trp Gln Ala Trp Pro Gln Gly Pro Pro Pro Trp Arg Gln Ala Ala | | | |
| | 65 | 70 | 75 | 80 |
| 20 | Pro Phe Ala Leu Ser Ala Leu Leu Tyr Gly Ala Asn Asn Asn Leu Val | | | |
| | 85 | 90 | 95 | |
| 25 | Ile Tyr Leu Gln Arg Tyr Met Asp Pro Ser Thr Tyr Gln Val Leu Ser | | | |
| | 100 | 105 | 110 | |
| | Asn Leu Lys Ile Gly Ser Thr Ala Val Leu Tyr Cys Leu Cys Leu Arg | | | |
| | 115 | 120 | 125 | |
| 30 | His Arg Leu Ser Val Arg Gln Gly Leu Ala Leu Leu Leu Met Ala | | | |
| | 130 | 135 | 140 | |
| | Ala Gly Ala Cys Tyr Ala Ala Gly Gly Leu Gln Val Pro Gly Asn Thr | | | |
| | 145 | 150 | 155 | 160 |
| 35 | Leu Pro Ser Pro Pro Ala Ala Ala Ser Pro Met Pro Leu His | | | |
| | 165 | 170 | 175 | |
| 40 | Ile Thr Pro Leu Gly Leu Leu Leu Ile Leu Tyr Cys Leu Ile Ser | | | |
| | 180 | 185 | 190 | |
| | Gly Leu Ser Ser Val Tyr Thr Glu Leu Leu Met Lys Arg Gln Xaa Leu | | | |
| | 195 | 200 | 205 | |
| 45 | Pro Leu Ala Leu Gln Asn Leu Phe Leu Tyr Thr Phe Gly Val Leu Leu | | | |
| | 210 | 215 | 220 | |
| | Asn Leu Gly Leu His Ala Gly Gly Ser Gly Pro Gly Leu Leu Glu | | | |
| | 225 | 230 | 235 | 240 |
| 50 | Gly Phe Ser Gly Trp Ala Ala Leu Val Val Leu Ser Gln Ala Leu Asn | | | |
| | 245 | 250 | 255 | |
| 55 | Gly Leu Leu Met Ser Ala Val Met Lys His Gly Ser Ser Ile Thr Arg | | | |
| | 260 | 265 | 270 | |
| | Leu Phe Val Val Ser Cys Ser Leu Val Val Asn Ala Val Leu Ser Ala | | | |
| | 275 | 280 | 285 | |
| 60 | Val Leu Leu Arg Leu Gln Leu Thr Ala Ala Phe Phe Leu Ala Thr Leu | | | |
| | 290 | 295 | 300 | |

Leu Ile Gly Leu Ala Met Arg Leu Tyr Tyr Gly Ser Arg
305 310 315

5

(2) INFORMATION FOR SEQ ID NO: 368:

- 10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 368:

15 Met Gly Glu Gln Pro His Phe Ser Leu Cys Val Leu Leu Ala Ala Val
1 5 10 15

Arg Glu Asp Xaa Asp Pro Xaa Val Phe Pro Cys Cys Phe Leu Xaa
20 25 30

20

(2) INFORMATION FOR SEQ ID NO: 369:

- 25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 43 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 369:

30 Met Ser Phe Ile Ala Leu His Pro Leu Leu Pro Glu Ala Ala Leu Gly
1 5 10 15

35 Val Pro Gly Gln Ser Pro His Arg Pro Leu Trp Gln Thr Gln Cys Cys
20 25 30

Val Ala Pro Pro Gln Pro Arg Ala Glu Phe Xaa
35 40

40

(2) INFORMATION FOR SEQ ID NO: 370:

- 45 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 255 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 370:

50 Met Val Thr Ala Leu Thr Leu Leu Ala Phe Pro Leu Leu Leu His
1 5 10 15

Ala Glu Arg Ile Ser Leu Val Phe Leu Leu Phe Leu Gln Ser Phe
20 25 30

55 Leu Leu Leu His Leu Leu Ala Ala Gly Ile Pro Val Thr Thr Pro Gly
35 40 45

60 Pro Phe Thr Val Pro Trp Gln Ala Val Ser Ala Trp Ala Leu Met Ala
50 55 60

Thr Gln Thr Phe Tyr Ser Thr Gly His Gln Pro Val Phe Pro Ala Ile
 65 70 75 80

5 His Trp His Ala Ala Phe Val Gly Phe Pro Glu Gly His Gly Ser Cys
 85 90 95

Thr Trp Leu Pro Ala Leu Leu Val Gly Ala Asn Thr Phe Ala Ser His
 100 105 110

10 Leu Leu Phe Ala Val Gly Cys Pro Leu Leu Leu Trp Pro Phe Leu
 115 120 125

15 Cys Glu Ser Gln Gly Leu Arg Lys Arg Gln Gln Pro Pro Gly Asn Glu
 130 135 140

Ala Asp Ala Arg Val Arg Pro Glu Glu Glu Glu Pro Leu Met Glu
 145 150 155 160

20 Met Arg Leu Arg Asp Ala Pro Gln His Phe Tyr Ala Ala Leu Leu Gln
 165 170 175

Leu Gly Leu Lys Tyr Leu Phe Ile Leu Gly Ile Gln Ile Leu Ala Cys
 25 180 185 190

Ala Leu Ala Ala Ser Ile Leu Arg Arg His Leu Met Val Trp Lys Val
 195 200 205

30 Phe Ala Pro Lys Phe Ile Phe Glu Ala Val Gly Phe Ile Val Ser Ser
 210 215 220

Val Gly Leu Leu Leu Gly Ile Ala Leu Val Met Arg Val Asp Gly Ala
 225 230 235 240

35 Val Ser Ser Trp Phe Arg Gln Leu Phe Leu Ala Gln Gln Arg Xaa
 245 250 255

40 (2) INFORMATION FOR SEQ ID NO: 371:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 371:

Met Xaa Gly Pro Trp Gly Glu Glu Ala Leu Ile Arg Leu Pro Thr Pro
 50 1 5 10 15

50 Ser Gly Leu Xaa
 20

55 (2) INFORMATION FOR SEQ ID NO: 372:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 64 amino acids
 - (B) TYPE: amino acid

(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 372:

5 Met Ala Thr Leu Glu Xaa Asn Gln Arg Glu Val Asp Arg Glu Ile Arg
1 5 10 15

Ser Leu Leu Leu Trp Phe Leu Leu Cys Glu Ile Val Ser Gly Trp Leu
20 25 30

10 Cys Pro Glu Gly Pro Trp Phe Ser Gln Gly Cys Gln Ile Tyr Lys Asn
35 40 45

Leu Ser Ser Ser Ser Ser Tyr Asn Leu Ser Phe Leu Leu Ser Leu Xaa
50 55 60

15

20

(2) INFORMATION FOR SEQ ID NO: 373:

(i) SEQUENCE CHARACTERISTICS:
25 (A) LENGTH: 40 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 373:

30 Met Ile His Ser Gly Cys Thr Ser Gln Cys Leu Glu Gly Phe Phe Leu
1 5 10 15

Ile Phe Leu Leu Asp Phe Asn Pro Val Leu Ala Leu Asp Leu Ile Gly
20 25 30

35 Ile Met Arg Lys Ala Ser His Xaa
35 40

40 (2) INFORMATION FOR SEQ ID NO: 374:

(i) SEQUENCE CHARACTERISTICS:
45 (A) LENGTH: 35 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 374:

50 Met Val Phe Ser Ala Arg Val Ser Leu Tyr Thr Arg Phe Lys Val Ile
1 5 10 15

Leu Leu Ser Leu Leu Ile Met Ile Leu His Val Cys Trp Val Trp Val
20 25 30

55 Ile Leu Xaa
35

60 (2) INFORMATION FOR SEQ ID NO: 375:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 11 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 375:

Gly Leu Leu Tyr Ile Met Tyr Cys Asn Ile Xaa
1 5 10

10

(2) INFORMATION FOR SEQ ID NO: 376:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 64 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 376:

20 Met Asn Asn Gly Leu Leu Gln Gln Pro Ser Ala Leu Met Leu Leu Pro
1 5 10 15

Cys Arg Pro Val Leu Thr Ser Val Ala Leu Asn Ala Asn Phe Val Ser
20 25 30

25 Trp Lys Ser Arg Thr Lys Tyr Thr Ile Thr Pro Val Lys Met Arg Lys
35 40 45

30 Ser Gly Gly Arg Asp His Thr Gly Gly Asn Lys Asp Arg Gly Ile Xaa
50 55 60

35

(2) INFORMATION FOR SEQ ID NO: 377:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 377:

45 Met Arg Lys Gln Arg Leu Val Pro Met Tyr Leu Gly Leu Ile Tyr Ile
1 5 10 15

Leu Leu Xaa

50

(2) INFORMATION FOR SEQ ID NO: 378:

55 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

60 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 378:

Met Arg Gln His Xaa
1 5

5

(2) INFORMATION FOR SEQ ID NO: 379:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 17 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 379:

15 Leu Leu Leu Pro Val Leu Ala Ser Ser Val Pro Ser His Ser Ala Thr
1 5 10 15

Xaa

20

(2) INFORMATION FOR SEQ ID NO: 380:

(i) SEQUENCE CHARACTERISTICS:

- 25 (A) LENGTH: 84 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 380:

30 Met Leu Pro Leu Leu Leu Phe Thr Tyr Leu Asn Ser Phe Leu His Gln
1 5 10 15

Arg Ile Pro Gln Ser Val Arg Ile Leu Gly Ser Leu Val Ala Ile Leu
20 25 30

35 Leu Val Phe Leu Ile Thr Ala Ile Leu Val Lys Val Gln Leu Asp Ala
35 40 45

40 Leu Pro Phe Phe Val Ile Thr Met Ile Lys Ile Val Leu Ile Asn Ser
50 55 60

Phe Gly Ala Ile Leu Gln Gly Ser Leu Phe Gly Leu Ala Gly Leu Leu
65 70 75 80

45 Pro Ala Ser Xaa

50 (2) INFORMATION FOR SEQ ID NO: 381:

(i) SEQUENCE CHARACTERISTICS:

- 55 (A) LENGTH: 21 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 381:

Met Lys Leu Ser Leu Phe Leu Ile Leu Ser Asp Val Phe Tyr Leu Gly
1 5 10 15

60

Ser Pro Xaa Thr Xaa
20

5

(2) INFORMATION FOR SEQ ID NO: 382:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 29 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 382:

15 Met Gly Thr Arg Arg Lys Gly Val Ala Trp Leu Ser Leu Ala Pro Leu
1 5 10 15

Ile Thr Gly Leu Ala Pro Ala His Ile Thr Ala Val Xaa
20 25

20

(2) INFORMATION FOR SEQ ID NO: 383:

(i) SEQUENCE CHARACTERISTICS:

- 25 (A) LENGTH: 34 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 383:

30 Met Lys Asp Leu Leu Gln Arg Asn Pro Trp Lys Asn Ser Leu Leu Leu
1 5 10 15

Leu Gln Val Cys Gln Ala Phe Leu Val Cys Ser Leu Thr Gln Leu Ala
20 25 30

35 Val Xaa

40

(2) INFORMATION FOR SEQ ID NO: 384:

(i) SEQUENCE CHARACTERISTICS:

- 45 (A) LENGTH: 47 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 384:

50 Met Ser Glu Ser His Lys Ile Trp Trp Cys Tyr Arg His Leu Ala Phe
1 5 10 15

Pro Leu Leu Thr Leu Ile Leu Tyr Pro Ala Thr Leu Gly Arg Ser Val
20 25 30

55 Phe Cys His Asp Cys Lys Phe Pro Glu Ala Ser Pro Ala Met Xaa
35 40 45

60 (2) INFORMATION FOR SEQ ID NO: 385:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 25 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 385:

Met Leu Asn Arg Ile Met Val Ala Ser Phe Gly Ala Val Leu Val Gln
1 5 10 15

10 Val Cys Arg Gly Xaa Gly Gln Gly Xaa
20 25

15

(2) INFORMATION FOR SEQ ID NO: 386:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 68 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 386:

Met Gln Leu Leu Leu Leu Gly Leu Ile Arg Ser Gln Pro Ser Pro Pro
25 1 5 10 15

Pro Ser Leu Cys Leu Met Leu Cys Pro Cys Leu Pro Cys Leu Arg Tyr
20 25 30

30 Ser Pro Phe Val Pro Gln His Pro Cys Pro Leu Pro Leu Asp Leu Cys
35 40 45

Leu Ala Gly Cys Ser Ser Leu Ser Val Gln Asp Lys Cys Ser Trp Pro
50 55 60

35 Tyr Pro Ile Xaa
65

40

(2) INFORMATION FOR SEQ ID NO: 387:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 34 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 387:

50 Lys Glu Phe Phe Val Phe Leu Phe Val Cys Leu Phe Trp Leu Leu Ser
1 5 10 15

Asn Thr Pro Leu Thr Phe Ile Ser Ile Ile Leu Gln Arg Lys Glu Thr
20 25 30

55 Asn Xaa

60 (2) INFORMATION FOR SEQ ID NO: 388:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 14 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 388:

Ser Phe Leu Met Val Leu Val Ile Leu Ala Ala Ser Pro Xaa
1 5 10

(2) INFORMATION FOR SEQ ID NO: 389:

15 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 389:

1 5 10

25 (2) INFORMATION FOR SEQ ID NO: 390:
(i) SEQUENCE CHARACTERISTICS:

30 (A) LENGTH: 154 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 390:

35 Met Thr Lys Ala Arg Leu Phe Arg Leu Trp Leu Val Leu Gly Ser Val
1 5 10 15

Phe Met Ile Leu Leu Ile Ile Val Tyr Trp Asp Ser Ala Gly Ala Ala
20 25 30

40 His Phe Tyr Leu His Thr Ser Phe Ser Arg Pro His Thr Gly Pro Pro
35 40 45

Leu Pro Thr Pro Gly Pro Asp Arg Asp Arg Glu Leu Thr Ala Asp Ser
50 55 60

45 Asp Val Asp Xaa Phe Leu Asp Xaa Phe Leu Ser Ala Gly Val Lys Gln
65 70 75 80

50 Ser Asp Xaa Pro Arg Lys Glu Thr Glu Gln Pro Pro Ala Pro Gly Ser
85 90 95

Met Glu Glu Ser Val Arg Xaa Tyr Asp Trp Ser Pro Arg Xaa Ala Arg
100 105 110

55 Arg Thr Gln Thr Arg Ala Gly Ser Xaa Arg Xaa Gly Gly Xaa Cys Cys
115 120 125

Gly Ala Ser Ala Pro Xaa Pro Ala Trp Pro Ser Pro Pro Arg Ser Ala
130 135 140

560

His Ser Thr Thr Ser Pro Thr Arg Ser Xaa
145 150

5

(2) INFORMATION FOR SEQ ID NO: 391:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 9 amino acids
10 (B) TYPE: amino acid
(C) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 391:

Met Val Leu Leu Gly Leu Leu Ser Xaa
15 1 5

20 (2) INFORMATION FOR SEQ ID NO: 392:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 61 amino acids
25 (B) TYPE: amino acid
(C) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 392:

Met Cys Ile His Val Phe Met Xaa Val Leu Trp Val Leu Phe Leu Leu
1 5 10 15

30 Asn Pro Leu Cys Thr Gly Leu Trp Pro Leu Xaa Asn Cys Phe Ser Val
20 25 30

Leu Arg His Ala Asp Trp Val Leu Gly Ala Asp Tyr Lys Gly Glu Glu
35 40 45

35 Leu Asn Arg His Gln Gly Pro Met Lys Pro Lys Asp Xaa
50 55 60

40

(2) INFORMATION FOR SEQ ID NO: 393:

- (i) SEQUENCE CHARACTERISTICS:
45 (A) LENGTH: 447 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 393:

50 Met Leu Leu Gly Leu Leu Met Ala Ala Cys Phe Thr Phe Cys Leu Ser
1 5 10 15

His Gln Asn Leu Lys Glu Phe Ala Leu Thr Asn Pro Glu Lys Ser Ser
20 25 30

55 Thr Lys Glu Thr Glu Arg Lys Glu Thr Lys Ala Glu Glu Glu Leu Asp
35 40 45

60 Ala Glu Val Leu Glu Val Phe His Pro Thr His Glu Trp Gln Ala Leu
50 55 60

Gln Pro Gly Gln Ala Val Pro Ala Gly Ser His Val Arg Leu Asn Leu
 65 70 75 80

Gln Thr Gly Glu Arg Glu Ala Lys Leu Gln Tyr Glu Asp Lys Phe Arg
 5 85 90 95

Asn Asn Leu Lys Gly Lys Arg Leu Asp Ile Asn Thr Asn Thr Tyr Thr
 100 105 110

10 Ser Gln Asp Leu Lys Ser Ala Leu Ala Lys Phe Lys Glu Gly Ala Glu
 115 120 125

Met Glu Ser Ser Lys Glu Asp Lys Ala Arg Gln Ala Glu Val Lys Arg
 130 135 140

15 Leu Phe Arg Pro Ile Glu Glu Leu Lys Lys Asp Phe Asp Glu Leu Asn
 145 150 155 160

20 Val Val Ile Glu Thr Asp Met Gln Ile Met Val Arg Leu Ile Asn Lys
 165 170 175

Phe Asn Ser Ser Ser Ser Leu Glu Glu Lys Ile Ala Ala Leu Phe
 180 185 190

25 Asp Leu Glu Tyr Tyr Val His Gln Met Asp Asn Ala Gln Asp Leu Leu
 195 200 205

Ser Phe Gly Gly Leu Gln Val Val Ile Asn Gly Leu Asn Ser Thr Glu
 210 215 220

30 Pro Leu Val Lys Glu Tyr Ala Ala Phe Val Leu Gly Ala Ala Phe Ser
 225 230 235 240

35 Ser Asn Pro Lys Val Gln Val Glu Ala Ile Glu Gly Gly Ala Leu Gln
 245 250 255

Lys Leu Leu Val Ile Leu Ala Thr Glu Gln Pro Leu Thr Ala Lys Lys
 260 265 270

40 Lys Val Leu Phe Ala Leu Cys Ser Leu Leu Arg His Phe Pro Tyr Ala
 275 280 285

Gln Arg Gln Phe Leu Lys Leu Gly Gly Leu Gln Val Leu Arg Thr Leu
 290 295 300

45 Val Gln Glu Lys Gly Thr Glu Val Leu Ala Val Arg Val Val Thr Leu
 305 310 315 320

50 Leu Tyr Asp Leu Val Thr Glu Lys Met Phe Ala Glu Glu Ala Glu
 325 330 335

Leu Thr Gln Glu Met Ser Pro Glu Lys Leu Gln Gln Tyr Arg Gln Val
 340 345 350

55 His Leu Leu Pro Gly Leu Trp Glu Gln Gly Trp Cys Glu Ile Thr Ala
 355 360 365

His Leu Leu Ala Leu Pro Glu His Asp Ala Arg Glu Lys Val Leu Gln
 370 375 380

60

562

Thr Leu Gly Val Leu Leu Thr Cys Arg Asp Arg Tyr Arg Gln Asp
385 390 395 400

5 Pro Gln Leu Gly Arg Thr Leu Ala Ser Leu Gln Ala Glu Tyr Gln Val
405 410 415

Leu Ala Ser Leu Glu Leu Gln Asp Gly Glu Asp Gln Gly Tyr Phe Gln
420 425 430

10 Glu Leu Leu Gly Ser Val Asn Ser Leu Leu Lys Glu Leu Arg Xaa
435 440 445

15 (2) INFORMATION FOR SEQ ID NC: 394:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 24 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 394:

Met Val Ile Ser Tyr Val Thr Phe Thr Pro Val Ser Ala Asp Cys Phe
1 5 10 15

25 Phe Asn Val Leu Val Cys Phe Xaa
20

30 (2) INFORMATION FOR SEQ ID NC: 395:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 24 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 395:

40 Glu Leu Leu Phe Leu Leu Ile Ile Leu Gly Glu Ser Leu Ser Asp
1 5 10 15

45 Val Ile Leu Leu Ile Cys Phe Xaa
20

(2) INFORMATION FOR SEQ ID NC: 396:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 35 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 396:

55 Met Phe Tyr Trp Gly Gly Leu Ser Phe Tyr Phe Leu Leu Ser Ser Gly
1 5 10 15

Val Gly Phe Tyr Cys Phe Leu Phe Gly Phe Gly Met Glu Ile Trp Ile
20 25 30

60

Ala Ala Xaa
35

5

(2) INFORMATION FOR SEQ ID NO: 397:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 397:

Gly Arg Xaa
15 1

20 (2) INFORMATION FOR SEQ ID NO: 398:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 25 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 398:

Met Lys Leu Ser Leu Leu Ile Leu Thr Leu Met Gln Arg Tyr Phe Arg
1 5 10 15

30 Thr Ile Thr Asn Ser Leu Cys Lys Xaa
20 25

35 (2) INFORMATION FOR SEQ ID NO: 399:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 79 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 399:

45 Met Pro Ala Val Ser Gly Pro Gly Pro Leu Phe Cys Leu Leu Leu
1 5 10 15
Leu Leu Asp Pro His Ser Pro Glu Thr Gly Cys Pro Pro Leu Arg Arg
20 25 30

50 Phe Glu Tyr Lys Leu Ser Phe Lys Gly Pro Arg Leu Ala Leu Pro Gly
35 40 45

Ala Gly Ile Pro Phe Trp Ser His His Gly Gly Glu Gly Gln Gly Trp
50 55 60

55 Gly Pro Leu Cys Pro Gly Ser Leu Lys Val Leu Glu Gly Leu Xaa
65 70 75

60 (2) INFORMATION FOR SEQ ID NO: 400:

(i) SEQUENCE CHARACTERISTICS:

• (A) LENGTH: 21 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 400:

Met Lys Val Phe Leu Ser Met Pro Phe Leu Val Leu Phe Gln Ser Leu
 1 5 10 15

 Ile Gln Glu Asp Xaa
 20

15

(2) INFORMATION FOR SEQ ID NO: 401:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 257 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 401:

25 Met Ala Ala Leu Thr Ser His Leu Gln Asn Gln Ser Asn Asn Ser Asn
 1 5 10 15

Trp Asn Leu Arg Thr Arg Ser Lys Cys Lys Lys Asp Val Phe Met Pro
20 25 30

30 Pro Ser Ser Ser Glu Leu Gln Glu Ser Arg Gly Leu Ser Asn Phe
35 40 45

Thr Ser Thr His Leu Leu Leu Lys Glu Asp Glu Gly Val Asp Asp Val
50 55 60

35 Asn Phe Arg Lys Val Arg Lys Pro Lys Gly Lys Val Thr Ile Leu Lys
65 70 . 75 80

Gly Ile Pro Ile Lys Lys Thr Lys Lys Gly Cys Arg Lys Ser Cys Ser
85 90 95

45 Asp Ala Glu Ser Glu Pro Val Ala Gln Lys Ser Gln Leu Asp Arg Thr

Val Cys Ile Ser Asp Ala Gly Ala Cys Gly Glu Thr Leu Ser Val Thr

50 130 135 140
Ser Glu Glu Asn Ser Leu Val Lys Lys Lys Glu Arg Ser Leu Ser Ser
145 150 155 160

Gly Ser Asn Phe Cys Ser Glu Gln Lys Thr Ser Gly Ile Ile Asn Lys
165 170 175

Phe Cys Ser Ala Lys Asp Ser Glu His Asn Glu Lys Tyr Glu Asp Thr
 180 185 190

565

| | | |
|---|-----|-----|
| 195 | 200 | 205 |
| Lys Glu His Leu His Thr Asp Ile Leu Lys Arg Gly Ser Glu Met Asp | | |
| 210 | 215 | 220 |
| Asn Asn Cys Ser Pro Thr Arg Lys Asp Phe Thr Glu Asp Thr Ile Pro | | |
| 225 | 230 | 235 |
| 240 | | |
| Arg Asn Thr Asp Arg Lys Lys Glu Asn Lys Pro Val Phe Phe Gln Gln | | |
| 10 | 245 | 250 |
| 255 | | |
| Ile | | |

15

(2) INFORMATION FOR SEQ ID NO: 402:

(i) SEQUENCE CHARACTERISTICS:

| | | |
|---|---|-----|
| 20 | (A) LENGTH: 424 amino acids | |
| | (B) TYPE: amino acid | |
| | (D) TOPOLOGY: linear | |
| (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 402: | | |
| 25 | Met Glu Lys Gln Cys Cys Ser His Pro Val Ile Cys Ser Leu Ser Thr | |
| | 1 | 5 |
| | 10 | 15 |
| Met Tyr Thr Phe Leu Leu Gly Ala Ile Phe Ile Ala Leu Ser Ser Ser | | |
| | 20 | 25 |
| | 30 | 30 |
| 30 | Arg Ile Leu Leu Val Lys Tyr Ser Ala Asn Glu Glu Asn Lys Tyr Asp | |
| | 35 | 40 |
| | 45 | |
| 35 | Tyr Leu Pro Thr Thr Val Asn Val Cys Ser Glu Leu Val Lys Leu Val | |
| | 50 | 55 |
| | 60 | |
| Phe Cys Val Leu Val Ser Phe Cys Val Ile Lys Lys Asp His Gln Ser | | |
| | 65 | 70 |
| | 75 | 80 |
| 40 | Arg Asn Leu Lys Tyr Ala Ser Trp Lys Glu Phe Ser Asp Phe Met Lys | |
| | 85 | 90 |
| | 95 | |
| Trp Ser Ile Pro Ala Phe Leu Tyr Phe Leu Asp Asn Leu Ile Val Phe | | |
| | 100 | 105 |
| | 110 | |
| 45 | Tyr Val Leu Ser Tyr Leu Gln Pro Ala Met Ala Val Ile Phe Ser Asn | |
| | 115 | 120 |
| | 125 | |
| 50 | Phe Ser Ile Ile Thr Thr Ala Leu Leu Phe Arg Ile Val Leu Lys Xaa | |
| | 130 | 135 |
| | 140 | |
| Arg Leu Asn Trp Ile Gln Trp Ala Ser Leu Leu Thr Leu Phe Leu Ser | | |
| | 145 | 150 |
| | 155 | 160 |
| 55 | Ile Val Ala Leu Thr Ala Gly Thr Lys Thr Leu Gln His Asn Leu Ala | |
| | 165 | 170 |
| | 175 | |
| Gly Arg Gly Phe His His Asp Ala Phe Phe Ser Pro Ser Asn Ser Cys | | |
| | 180 | 185 |
| | 190 | |

60

566

Leu Leu Phe Arg Asn Glu Cys Pro Arg Lys Asp Asn Cys Thr Ala Lys
 195 200 205
 5 Glu Trp Thr Phe Pro Glu Ala Lys Trp Asn Thr Thr Ala Arg Val Phe
 210 215 220
 Ser His Ile Arg Leu Gly Met Gly His Val Leu Ile Ile Val Gln Cys
 225 230 235 240
 10 Phe Ile Ser Ser Met Ala Asn Ile Tyr Asn Glu Lys Ile Leu Lys Glu
 245 250 255
 Gly Asn Gln Leu Thr Glu Xaa Ile Phe Ile Gln Asn Ser Lys Leu Tyr
 260 265 270
 15 Phe Phe Gly Ile Leu Phe Asn Gly Leu Thr Leu Gly Leu Gln Arg Ser
 275 280 285
 20 Asn Arg Asp Gln Ile Lys Asn Cys Gly Phe Phe Tyr Gly His Ser Ala
 290 295 300
 Phe Ser Val Ala Leu Ile Phe Val Thr Ala Phe Gln Gly Leu Ser Val
 305 310 315 320
 25 Ala Phe Ile Leu Lys Phe Leu Asp Asn Met Phe His Val Leu Met Ala
 325 330 335
 Gln Val Thr Thr Val Ile Ile Thr Thr Val Ser Val Leu Val Phe Asp
 340 345 350
 30 Phe Arg Pro Ser Leu Glu Phe Phe Leu Glu Ala Pro Ser Val Leu Leu
 355 360 365
 Ser Ile Phe Ile Tyr Asn Ala Ser Lys Pro Gln Val Pro Glu Tyr Ala
 370 375 380
 35 Pro Arg Gln Glu Arg Ile Arg Asp Leu Ser Gly Asn Leu Trp Glu Arg
 385 390 395 400
 40 Ser Ser Gly Asp Gly Glu Glu Leu Glu Arg Leu Thr Lys Pro Lys Ser
 405 410 415
 Asp Glu Ser Asp Glu Asp Thr Phe
 420
 45

(2) INFORMATION FOR SEQ ID NO: 403:

50 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 33 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 403:
 55 Met Trp Gly Gln Gly Ser Gln Lys Ser His Phe Ser Asp Leu Val Phe
 1 5 10 15
 Gly Val Arg Glu Leu Cys Ala Gln Pro Ser Asp Pro Gly Ser Pro His
 60 20 25 30

Xaa

5

(2) INFORMATION FOR SEQ ID NO: 404:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 80 amino acids
(B) TYPE: amino acid
(C) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 404:

15 Met Val Gln His Ile Gln Pro Ala Ala Leu Ser Leu Leu Ala Gln Trp
1 5 10 15

Ser Thr Leu Val Gln Glu Leu Glu Ala Ala Leu Gln Leu Ala Phe Tyr
20 25 30

20 Pro Asp Ala Val Glu Glu Trp Leu Glu Glu Asn Val His Pro Ser Leu
35 40 45

25 Gln Arg Leu Gln Xaa Leu Leu Gln Asp Leu Ser Glu Val Ser Ala Pro
50 55 60

Pro Leu Pro Pro Thr Ser Pro Gly Arg Asp Val Ala Gln Asp Pro Xaa
65 70 75 80

30

35 (2) INFORMATION FOR SEQ ID NO: 405:

(i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 95 amino acids
(B) TYPE: amino acid
(C) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 405:

45 Met Leu Asn Gln Gly Tyr Ile Arg Lys Ile Ile Leu Ile Ile Ile Leu
1 5 10 15

Gly Ser Phe Ser Ser Pro Lys Lys Ala Ile Leu Met Gly Phe Gln Asn
20 25 30

50 Gln Lys Lys Ala Leu Asn Glu Glu Gln Thr Thr Gly Val Pro Met Ser
35 40 45

Ile Ser Gly Lys Leu Arg Pro Ser Arg Ser Leu Asp Phe Val Gln Pro
50 55 60

55 Pro Arg Phe Gln Ser Gln Gln Pro Ser Ala Val Val Asp Arg Arg Gly
65 70 75 80

Phe Xaa Xaa Lys Ala Ala Arg Gly Gln Glu Phe Ser Glu Ser Xaa
85 90 95

60

(2) INFORMATION FOR SEQ ID NO: 406:

(2) INFORMATION FOR SEQ ID NO: 407:

5

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 623 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 407:

Met Phe Met Arg Ile Ala Lys Ala Tyr Ala Ala Leu Thr Asp Glu Glu
1 5 10 15

15 Ser Arg Lys Asn Trp Glu Glu Phe Gly Asn Pro Asp Gly Pro Gln Ala
20 25 30

Thr Ser Phe Gly Ile Ala Leu Pro Ala Trp Ile Val Asp Gln Lys Asn
35 40 45

20 Ser Ile Leu Val Leu Val Tyr Gly Leu Ala Phe Met Val Ile Leu
50 55 60

25 Pro Val Val Val Gly Ser Trp Trp Tyr Arg Ser Ile Arg Tyr Ser Gly
65 70 75 80

Asp Gln Ile Leu Ile Arg Thr Thr Gln Ile Tyr Thr Tyr Phe Val Tyr
85 90 95

30 Lys Thr Arg Asn Met Asp Met Lys Arg Leu Ile Met Val Leu Xaa Gly
100 105 110

Ala Ser Glu Phe Asp Pro Gln Tyr Asn Lys Asp Ala Thr Ser Arg Pro
115 120 125

35 Thr Asp Asn Ile Leu Ile Pro Gln Leu Ile Arg Glu Ile Gly Ser Ile
130 135 140

40 Asn Leu Lys Lys Asn Glu Pro Pro Leu Thr Cys Pro Tyr Ser Leu Lys
145 150 155 160

Ala Arg Val Leu Leu Leu Ser His Leu Ala Arg Met Lys Ile Pro Glu
165 170 175

45 Thr Leu Glu Glu Asp Gln Gln Phe Met Leu Lys Lys Cys Pro Ala Leu
180 185 190

Leu Gln Glu Met Val Asn Val Ile Cys Gln Leu Ile Val Met Ala Arg
195 200 205

50 Asn Arg Glu Glu Arg Glu Phe Arg Ala Pro Thr Leu Ala Ser Leu Glu
210 215 220

55 Asn Cys Met Lys Leu Ser Gln Met Ala Val Gln Gly Leu Gln Gln Phe
225 230 235 240

Lys Ser Pro Leu Leu Gln Leu Pro His Ile Glu Glu Asp Asn Leu Arg
245 250 255

60 Arg Val Ser Asn His Lys Lys Tyr Lys Ile Lys Thr Ile Gln Asp Leu

| | 260 | 265 | 270 |
|----|---|-----|-----|
| | Val Ser Leu Lys Glu Ser Asp Arg His Thr Leu Leu His Phe Leu Glu | | |
| | 275 | 280 | 285 |
| 5 | Asp Glu Lys Tyr Glu Glu Val Met Ala Val Leu Gly Ser Phe Pro Tyr | | |
| | 290 | 295 | 300 |
| | Val Thr Met Asp Ile Lys Ser Gln Val Leu Asp Asp Glu Asp Ser Asn | | |
| 10 | 305 | 310 | 315 |
| | Asn Ile Thr Val Gly Ser Leu Val Thr Val Leu Val Lys Leu Thr Arg | | |
| | 325 | 330 | 335 |
| 15 | Gln Thr Met Ala Glu Val Phe Glu Lys Glu Gln Ser Ile Cys Ala Ala | | |
| | 340 | 345 | 350 |
| | Glu Glu Gln Pro Ala Glu Asp Gly Gln Gly Glu Thr Asn Lys Asn Arg | | |
| | 355 | 360 | 365 |
| 20 | Thr Lys Gly Gly Trp Gln Gln Lys Ser Lys Gly Pro Lys Lys Thr Ala | | |
| | 370 | 375 | 380 |
| | Lys Ser Lys Lys Lys Pro Leu Lys Lys Pro Thr Pro Val Leu | | |
| 25 | 385 | 390 | 395 |
| | Leu Pro Gln Ser Lys Gln Gln Lys Gln Gln Ala Asn Gly Val Val | | |
| | 405 | 410 | 415 |
| 30 | Gly Asn Glu Ala Ala Val Lys Glu Asp Glu Glu Glu Val Ser Asp Lys | | |
| | 420 | 425 | 430 |
| | Gly Ser Asp Ser Glu Glu Glu Glu Thr Asn Arg Asp Ser Gln Ser Glu | | |
| | 435 | 440 | 445 |
| 35 | Lys Asp Asp Gly Ser Asp Arg Asp Ser Asp Arg Glu Gln Asp Glu Lys | | |
| | 450 | 455 | 460 |
| | Gln Asn Lys Asp Asp Glu Ala Glu Trp Gln Glu Leu Gln Gln Ser Ile | | |
| 40 | 465 | 470 | 475 |
| | Gln Arg Lys Glu Arg Ala Leu Leu Glu Thr Lys Ser Lys Ile Thr His | | |
| | 485 | 490 | 495 |
| 45 | Pro Val Tyr Ser Leu Tyr Phe Pro Glu Glu Lys Gln Glu Trp Trp Trp | | |
| | 500 | 505 | 510 |
| | Leu Tyr Ile Ala Asp Arg Lys Glu Gln Thr Leu Ile Ser Met Pro Tyr | | |
| | 515 | 520 | 525 |
| 50 | His Val Cys Thr Leu Lys Asp Thr Glu Glu Val Glu Leu Lys Phe Pro | | |
| | 530 | 535 | 540 |
| | Ala Pro Gly Lys Pro Gly Asn Tyr Gln Tyr Thr Val Phe Leu Arg Ser | | |
| 55 | 545 | 550 | 555 |
| | Asp Ser Tyr Met Gly Leu Asp Gln Ile Lys Pro Leu Glu Val Xaa Lys | | |
| | 565 | 570 | 575 |
| 60 | Phe Met Arg Leu Lys Pro Val Pro Glu Asn His Pro Gln Trp Asp Thr | | |

580 585 590

Ala Ile Glu Gly Asp Glu Asp Gln Glu Asp Ser Glu Gly Phe Glu Asp
 595 600 605

5 Ser Phe Glu Gly Gly Arg Gly Arg Glu Glu Gly Arg Trp Trp Thr
 610 615 620

10

(2) INFORMATION FOR SEQ ID NO: 408:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 190 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 408:

Met Lys Ala Ser Gln Cys Cys Cys Cys Leu Ser His Leu Leu Ala Ser
 20 1 5 10 15

Val Leu Leu Leu Leu Leu Pro Glu Leu Ser Gly Xaa Leu Xaa Val
 20 25 30

25 Leu Leu Gln Ala Ala Glu Ala Ala Pro Gly Leu Gly Pro Pro Asp Pro
 35 35 40 45

Arg Pro Arg Thr Leu Pro Pro Leu Pro Pro Gly Pro Thr Pro Ala Gln
 50 50 55 60

30 Gln Pro Gly Arg Gly Leu Ala Glu Ala Ala Gly Pro Arg Gly Ser Glu
 65 65 70 75 80

35 Gly Gly Asn Gly Ser Asn Pro Val Ala Gly Leu Glu Thr Asp Asp His
 85 85 90 95

Gly Gly Lys Ala Gly Glu Gly Ser Val Gly Gly Leu Ala Val Ser
 100 100 105 110

40 Pro Asn Pro Gly Asp Lys Pro Met Thr Gln Arg Ala Leu Thr Val Leu
 115 115 120 125

Met Val Val Ser Gly Ala Val Leu Val Tyr Phe Val Val Arg Thr Val
 130 130 135 140

45 Arg Met Arg Arg Arg Asn Arg Lys Thr Arg Arg Tyr Gly Val Leu Asp
 145 145 150 155 160

50 Thr Asn Ile Glu Asn Met Glu Leu Thr Pro Leu Glu Gln Asp Asp Glu
 165 165 170 175

Asp Asp Asp Asn Thr Leu Phe Asp Ala Asn His Pro Arg Arg
 180 180 185 190

55

(2) INFORMATION FOR SEQ ID NO: 409:

(i) SEQUENCE CHARACTERISTICS:

- 60 (A) LENGTH: 179 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 409:

5 Met Ser Pro Ser Gly Arg Leu Cys Leu Leu Thr Ile Val Gly Leu Ile
 1 5 10 15

Leu Pro Thr Arg Gly Gln Thr Leu Lys Asp Thr Thr Ser Ser Ser
 20 25 30

10 Ala Asp Ser Thr Ile Met Asp Ile Gln Val Pro Thr Arg Ala Pro Asp
 35 40 45

15 Ala Val Tyr Thr Glu Leu Gln Pro Thr Ser Pro Thr Pro Thr Pro
 50 55 60

Ala Asp Glu Thr Pro Gln Pro Gln Thr Gln Gln Leu Glu Gly
 65 70 75 80

20 Thr Asp Gly Pro Leu Val Thr Asp Pro Glu Thr His Lys Ser Thr Lys
 85 90 95

Ala Ala His Pro Thr Asp Asp Thr Thr Thr Leu Ser Glu Arg Pro Ser
 100 105 110

25 Pro Ser Thr Asp Val Gln Thr Asp Pro Gln Thr Leu Lys Pro Ser Gly
 115 120 125

30 Phe His Glu Asp Asp Pro Phe Phe Tyr Asp Glu His Thr Leu Arg Lys
 130 135 140

Arg Gly Leu Leu Val Ala Ala Val Leu Phe Ile Thr Gly Ile Ile Ile
 145 150 155 160

35 Leu Thr Ser Gly Lys Cys Arg Gln Leu Ser Arg Leu Cys Arg Asn His
 165 170 175

Cys Arg Xaa

40

(2) INFORMATION FOR SEQ ID NO: 410:

45 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 14 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 410:

50 Met Phe Lys Cys Leu Gln Thr Thr Phe Leu Phe Ile Xaa Xaa
 1 5 10

55

(2) INFORMATION FOR SEQ ID NO: 411:

60 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 232 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 411:

| | |
|----|---|
| | Met Leu Ala Gly Lys Leu Ile Pro Val His Gln Val Arg Gly Leu Lys |
| 5 | 1 5 10 15 |
| | Glu Lys Ile Val Arg Ser Phe Glu Val Ser Pro Asp Gly Ser Phe Leu |
| | 20 25 30 |
| 10 | Leu Ile Asn Gly Ile Ala Gly Tyr Leu His Leu Leu Ala Met Lys Thr |
| | 35 40 45 |
| | Lys Glu Leu Ile Gly Ser Met Lys Ile Asn Gly Arg Val Ala Ala Ser |
| | 50 55 60 |
| 15 | Thr Phe Ser Ser Asp Ser Lys Lys Val Tyr Ala Ser Ser Gly Asp Gly |
| | 65 70 75 80 |
| 20 | Glu Val Tyr Val Trp Asp Val Asn Ser Arg Lys Cys Leu Asn Arg Phe |
| | 85 90 95 |
| | Val Asp Glu Gly Ser Leu Tyr Gly Leu Ser Ile Ala Thr Ser Arg Asn |
| | 100 105 110 |
| 25 | Gly Gln Tyr Val Ala Cys Gly Ser Asn Cys Gly Val Val Asn Ile Tyr |
| | 115 120 125 |
| | Asn Gln Asp Ser Cys Leu Gln Glu Thr Asn Pro Lys Pro Ile Lys Ala |
| | 130 135 140 |
| 30 | Ile Met Asn Leu Val Thr Gly Val Thr Ser Leu Thr Phe Asn Pro Thr |
| | 145 150 155 160 |
| 35 | Thr Glu Ile Leu Ala Ile Ala Ser Glu Lys Met Lys Glu Ala Val Arg |
| | 165 170 175 |
| | Leu Val His Leu Pro Ser Cys Thr Val Phe Ser Asn Phe Pro Val Ile |
| | 180 185 190 |
| 40 | Lys Asn Lys Asn Ile Ser His Val His Thr Met Asp Phe Ser Pro Arg |
| | 195 200 205 |
| | Ser Gly Tyr Phe Ala Leu Gly Asn Glu Lys Gly Lys Ala Leu Met Tyr |
| | 210 215 220 |
| 45 | Arg Leu His His Tyr Ser Asp Phe |
| | 225 230 |

50

(2) INFORMATION FOR SEQ ID NO: 412:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 54 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 412:

| | |
|----|---|
| | Ile Leu Leu Cys Ser Trp Pro Thr Gly Leu Val Gly Gly Arg Asp Pro |
| 60 | 1 5 10 15 |

Gly Ser Ser Arg Gly Ser Ser Ala Ser Leu Thr Pro Ser Pro Gly Arg
20 25 30

5 Gln Pro Cys Ser Arg Arg Gly Tyr Ser Val Gly Arg Arg Ser Ser
35 40 45

Pro Pro Asp Gly Ser Xaa
50

10

(2) INFORMATION FOR SEQ ID NO: 413:

15 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 33 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 413:

20 Met Ser Leu Gln Ser Asn Ala Trp Ser Lys Xaa Leu Phe Ile Val Phe
1 5 10 15

Leu Phe Leu Arg Val Leu Phe Lys Thr Gly Val Ser Ser Glu Glu Ser
25 20 25 30

Xaa

30

(2) INFORMATION FOR SEQ ID NO: 414:

35 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 219 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 414:

40 Met Ala Val Val Leu Leu Ala Asn Leu Ala Gln Gly Asp Ser Leu Ala
1 5 10 15

Ala Arg Ala Ile Ala Val Gln Lys Gly Ser Ile Gly Asn Leu Leu Gly
20 25 30

45 Phe Leu Glu Asp Ser Leu Ala Ala Thr Gln Phe Gln Gln Ser Gln Ala
35 40 45

50 Ser Leu Leu His Met Gln Asn Pro Pro Phe Glu Pro Xaa Ser Val Asp
50 55 60

Met Met Arg Arg Ala Ala Arg Ala Leu Leu Ala Leu Ala Lys Val Asp
65 70 75 80

55 Glu Asn His Ser Glu Phe Thr Leu Tyr Glu Ser Arg Leu Leu Asp Ile
85 90 95

Ser Val Ser Pro Leu Met Asn Ser Xaa Val Ser Gln Val Ile Cys Asp.
100 105 110

60

--

Val Leu Phe Leu Xaa Trp Pro Val Met Thr Ala Val Gly His Leu Pro
 115 120 125

5 Pro Pro Cys Val Cys Ala Cys Val Glu Asn Leu Glu Thr Asp Cys Cys
 130 135 140

Pro Leu Phe Met Gln Asn His Leu Arg Ile Gln Phe Thr Leu Cys Cys
 145 150 155 160

10 Pro Ala Ser Pro Leu Gly Lys Ser Leu Ser Cys Phe Ser Leu Leu Leu
 165 170 175

Pro Pro Pro Leu Pro Pro Ser Pro His Ala Phe Leu Phe Leu Val Leu
 180 185 190

15 Thr Leu Leu Pro Ser Gly Pro Tyr Pro Thr Leu Phe Glu Lys Thr Lys
 195 200 205

Leu Cys Leu His Arg Arg Leu Phe Leu Phe Xaa
 20 210 215

25 (2) INFORMATION FOR SEQ ID NO: 415:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 51 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 415:

Met Leu Pro Asp Glu Ser Phe Gly Leu Leu Leu Ser Ile Pro Ser Leu
 1 5 10 15

35 Thr Pro Ser Ala Ala Ala Pro Ser Phe Cys Val His Leu Met Gln Ala
 20 25 30

Ser Arg Ser Ser Lys Arg Ala Ser His Val Pro Val His Leu Leu Trp
 35 40 45

40 Gly Asp Xaa
 50

45 (2) INFORMATION FOR SEQ ID NO: 416:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 50 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 416:

Met Arg Pro Gly Ser Phe Ser Phe Ile Ala Phe Leu Ala Thr Glu Val
 55 1 5 10 15

Ser Ser Cys Phe Pro Gly Arg Pro Asp Cys Xaa Thr Gly Met Trp Leu
 20 25 30

60 Leu Gln Leu Gln Lys Lys Gln Arg Thr Leu Leu Ala Met Ala Pro Arg

35 40 45

Arg Xaa

50

5

(2) INFORMATION FOR SEQ ID NO: 417:

10 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 70 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 417:

15

Asp Arg Pro Cys Pro Ser Ser Leu Trp Lys Val Phe Pro Leu Leu Leu
1 5 10 15

20

Leu Leu Met Arg Leu Phe Pro Leu Pro Val Pro Gly Asn Gln Arg Ala
20 25 30

25

Xaa Leu Pro His Pro Phe Xaa Ala Pro Arg Leu Pro Cys Leu Leu Cys
35 40 45

30

Leu Cys Thr Gln Gln Phe Xaa Val Cys Ser His Tyr Leu Pro Ala Gly
50 55 60

Tyr Arg Val Asn Ser Xaa

65 70

35

(2) INFORMATION FOR SEQ ID NO: 418:

35 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 40 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 418:

40

Met His Glu Lys Ala Trp Asn Leu Ile Leu Leu Trp Trp Leu Ser Leu
1 5 10 15

45

Asp Leu Leu Gly Val Ala Lys Thr Ala Met Trp Ala Gln Trp Cys Gly
20 25 30

Leu Asn Asp His Lys Gly Lys Xaa
35 40

50

(2) INFORMATION FOR SEQ ID NO: 419:

55 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 22 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 419:

60

Met Ala Phe Val Leu Leu Xaa Cys Phe Val Xaa Leu Gln Ser Ser Xaa

1 5 10 15

Gly Arg Ala Val Gln Xaa
20

5

(2) INFORMATION FOR SEQ ID NO: 420:

10 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 33 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 420:

15

Met Phe Ser Leu Leu Trp Leu Val Cys Val Pro Ser Asn Ser Ser Val
1 5 10 15

20

Ala Asn Val Thr Ala Ser Arg Gly Gly Val Phe Lys Arg Ser Leu Gly
20 25 30

His Glu Gly Phe Ser Xaa
35

25

(2) INFORMATION FOR SEQ ID NO: 421:

30 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 35 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 421:

35

Lys Trp Leu Leu Phe Ile Phe Leu Leu Cys Leu Gln Leu Val Asn Ala
1 5 10 15

40

Leu Leu Ser Leu Phe Gln Glu Arg Phe Val His Cys Pro Ala Arg Phe
20 25 30

Val Ser Xaa
35

45

(2) INFORMATION FOR SEQ ID NO: 422:

50 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 32 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 422:

55

Met Leu Leu Phe Leu Ser Ile Thr Asn Ser Leu Ser Phe Ile Ser Val
1 5 10 15

Asp Lys Pro Phe Gly Gln Ser Glu Asp Val Cys Pro Val Ile Ser Xaa
20 25 30

60

5 (2) INFORMATION FOR SEQ ID NO: 423:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 127 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 423:

Met Glu Phe Leu Phe Asn Lys Thr Gly Trp Ala Phe Ala Ala Leu Cys
1 5 10 15

Phe Val Leu Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg Gly
20 25 30

Pro Pro Tyr Ala His Lys Asn Pro His Thr Gly His Val Asn Tyr Ile
20 35 40 45

His Gly Ser Ser Gln Ala Gln Phe Val Ala Glu Thr His Ile Val Leu
50 55 60

Leu Phe Asn Gly Gly Val Thr Leu Gly Met Val Leu Leu Cys Glu Ala
25 65 70 75 80

Ala Thr Ser Asp Met Asp Ile Gly Lys Arg Lys Ile Met Cys Val Ala
30 85 90 95

Gly Ile Gly Leu Val Val Leu Phe Phe Ser Trp Met Leu Ser Ile Phe
35 100 105 110

Arg Ser Lys Tyr His Gly Tyr Pro Tyr Ser Phe Leu Met Ser Xaa
40 115 120 125

(2) INFORMATION FOR SEQ ID NO: 424:

40

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 69 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 424:

Met Thr Trp His Ser Arg Glu Ser Phe Xaa Leu Leu Arg Val Val Ala
1 5 10 15

Pro Ser Gln Ala Pro Gly Met Gln Val Ser Pro Ser Gln Arg Ala Trp
50 20 25 30

Arg Arg Pro Leu His Arg Cys His Val Ala Ala Pro Arg Pro His His
55 35 40 45

Phe Ala Phe Phe Arg Asn Pro Phe Ser Trp Ser Phe Ile Lys Leu Leu
50 55 60

Tyr Arg Tyr Leu Xaa
60 65

5 (2) INFORMATION FOR SEQ ID NO: 425:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 92 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 425:

Met Gly Leu Lys Leu Asn Gly Arg Tyr Ile Ser Leu Ile Leu Ala Val
1 5 10 15

15 Gln Ile Ala Tyr Leu Val Gln Ala Val Arg Ala Ala Gly Lys Cys Asp
20 25 30

Ala Val Phe Lys Gly Phe Ser Asp Cys Leu Leu Lys Leu Gly Asp Thr
35 40 45

20 Trp Pro Thr Thr Arg Ser Leu Gly Arg Gln Asp Glu His Gln Asp Arg
50 55 60

25 Val His Ile Leu Gly Gly Phe Pro Gln Leu His Gly His Ser Pro Tyr
65 70 75 80

Gly Leu Pro Gly Arg Gly Glu Arg Tyr Val Gly Xaa
85 90

30

(2) INFORMATION FOR SEQ ID NO: 426:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 380 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 426:

40 Met Ala Arg Arg Ser Ala Phe Pro Ala Ala Ala Leu Trp Leu Trp Ser
1 5 10 15

Ile Leu Leu Cys Leu Leu Ala Leu Arg Ala Glu Ala Gly Pro Pro Gln
20 25 30

45 Glu Glu Ser Leu Tyr Leu Trp Ile Asp Ala His Gln Ala Arg Val Leu
35 40 45

50 Ile Gly Phe Glu Glu Asp Ile Leu Ile Val Ser Glu Gly Lys Met Ala
50 55 60

Pro Phe Thr His Asp Phe Arg Lys Ala Gln Gln Arg Met Pro Ala Ile
65 70 75 80

55 Pro Val Asn Ile His Ser Met Asn Phe Thr Trp Gln Ala Ala Gly Gln
85 90 95

Ala Glu Tyr Phe Tyr Glu Phe Leu Ser Leu Arg Ser Leu Asp Lys Gly.
100 105 110

60

Ile Met Ala Asp Pro Thr Val Asn Val Pro Leu Leu Gly Thr Val Pro
 115 120 125
 His Lys Ala Ser Val Val Gln Val Gly Phe Pro Cys Leu Gly Lys Gln
 5 130 135 140
 Asp Gly Val Ala Ala Phe Glu Val Asp Val Ile Val Met Asn Ser Glu
 145 150 155 160
 10 Gly Asn Thr Ile Leu Gln Thr Pro Gln Asn Ala Ile Phe Phe Lys Thr
 165 170 175
 Cys Gln Gln Ala Glu Cys Pro Gly Gly Cys Arg Asn Gly Gly Phe Cys
 15 180 185 190
 Asn Glu Arg Arg Ile Cys Glu Cys Pro Asp Gly Phe His Gly Pro His
 195 200 205
 20 Cys Glu Lys Ala Leu Cys Thr Pro Arg Cys Met Asn Gly Gly Leu Cys
 210 215 220
 Val Thr Pro Gly Phe Cys Ile Cys Pro Pro Gly Phe Tyr Gly Val Asn
 225 230 235 240
 25 Cys Asp Lys Ala Asn Cys Ser Thr Thr Cys Phe Asn Gly Gly Thr Cys
 245 250 255
 Phe Tyr Pro Gly Lys Cys Ile Xaa Pro Pro Gly Leu Glu Gly Glu Gln
 30 260 265 270
 Cys Glu Ile Ser Lys Cys Pro Gln Pro Cys Arg Asn Gly Gly Lys Cys
 275 280 285
 Ile Gly Lys Ser Lys Cys Lys Xaa Ser Lys Gly Tyr Gln Gly Asp Leu
 35 290 295 300
 Cys Ser Lys Pro Val Cys Glu Pro Gly Cys Gly Ala His Gly Thr Cys
 305 310 315 320
 40 His Glu Pro Asn Lys Cys Gln Cys Glu Gly Trp His Gly Arg His
 325 330 335
 Cys Asn Lys Arg Tyr Glu Ala Ser Leu Ile His Ala Leu Arg Pro Ala
 45 340 345 350
 Gly Ala Gln Leu Arg Gln His Thr Pro Ser Leu Lys Lys Ala Glu Glu
 355 360 365
 Arg Arg Asp Pro Pro Glu Ser Asn Tyr Ile Trp Xaa
 50 370 375 380

(2) INFORMATION FOR SEQ ID NO: 427:

55

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 24 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

60

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 427:

Met Thr Ser Asn Leu Leu Leu Thr Ile Leu Leu Lys Asp Thr Leu
1 5 10 15

5 Xaa Leu Ala Lys Xaa Asn Xaa Xaa
20

10 (2) INFORMATION FOR SEQ ID NO: 428:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 47 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 428:

Met Arg His His Thr Gln Leu Asn Phe Ile Phe Leu Val Glu Met Val
1 5 10 15

20 Phe Leu His Val Gly Gln Ala Gly Leu Lys Leu Pro Thr Ser Gly Asp
20 25 30

25 Xaa Ala Cys Phe Gly Leu Pro Lys Val Leu Gly Leu Gln Ala Xaa
35 40 45

30 (2) INFORMATION FOR SEQ ID NO: 429:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 429:

Met Cys Ser Asp Xaa
1 5

40

(2) INFORMATION FOR SEQ ID NO: 430:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 144 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 430:

50 Leu Leu Ser Ile Leu Leu Cys Leu Leu Ala Ser Gly Leu Val Val Phe
1 5 10 15

Phe Leu Phe Pro His Ser Val Leu Val Asp Asp Asp Gly Ile Lys Val
20 25 30

55 Val Lys Val Thr Phe Asn Lys Gln Asp Ser Leu Val Ile Leu Thr Ile
35 40 45

60 Met Ala Thr Leu Lys Ile Arg Asn Ser Asn Phe Tyr Thr Val Ala Val
50 55 60

Thr Ser Leu Ser Ser Gln Ile Gln Tyr Met Asn Thr Val Val Asn Phe
65 70 75 80

5 Thr Gly Lys Ala Glu Met Gly Pro Phe Ser Tyr Val Tyr Phe Phe
85 90 95

Cys Thr Val Pro Glu Ile Leu Val His Asn Ile Val Ile Phe Met Arg
100 105 110

10 Thr Ser Val Lys Ile Ser Tyr Ile Gly Leu Met Thr Gln Ser Ser Leu
115 120 125

Glu Thr His His Tyr Val Asp Cys Gly Gly Asn Ser Thr Ala Ile Xaa
15 130 135 140

20

(2) INFORMATION FOR SEQ ID NO: 431:

(i) SEQUENCE CHARACTERISTICS:
25 (A) LENGTH: 37 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 431:
30 Met Phe Phe Phe Leu Tyr Val Tyr Ser Val Leu Cys Gly Leu Leu Val
1 5 10 15

Tyr Pro Ser Leu Pro Ser His Ser Val Ser Leu Val Thr Ser Leu Val
20 25 30

35 Ala Ser Ala Leu Xaa
35

40

(2) INFORMATION FOR SEQ ID NO: 432:

(i) SEQUENCE CHARACTERISTICS:
45 (A) LENGTH: 37 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 432:
50 Met Ala Ser Ile Asn Ala Val Tyr Ile His Val Phe Leu Gly Val Cys
1 5 10 15

Val Gln Ala Thr Ala Ala Cys Pro Trp Cys Ser Gln Cys Arg Xaa Gly
20 25 30

55 Ser Val Pro Ser Xaa
35

60 (2) INFORMATION FOR SEQ ID NO: 433:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 192 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 433:

| | | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | Met | Met | Ala | Ala | Met | Val | Leu | Thr | Ser | Leu | Ser | Cys | Ser | Pro | Val | Val |
| | 1 | | | | 5 | | | 10 | | | | | | 15 | | |
| 10 | Gln | Ser | Pro | Pro | Gly | Thr | Glu | Ala | Asn | Phe | Ser | Ala | Ser | Arg | Ala | Ala |
| | | | | | 20 | | | | 25 | | | | | 30 | | |
| 15 | Cys | Asp | Pro | Trp | Lys | Glu | Ser | Gly | Asp | Ile | Ser | Asp | Ser | Gly | Xaa | Ser |
| | | | | | 35 | | | | 40 | | | | | 45 | | |
| | Thr | Thr | Ser | Gly | His | Trp | Ser | Gly | Ser | Ser | Gly | Val | Ser | Thr | Pro | Ser |
| | | | | | 50 | | | | 55 | | | 60 | | | | |
| 20 | Pro | Pro | His | Pro | Gln | Ala | Ser | Pro | Lys | Tyr | Leu | Gly | Asp | Ala | Phe | Gly |
| | | | | | 65 | | | | 70 | | 75 | | | 80 | | |
| | Ser | Pro | Gln | Thr | Asp | His | Gly | Phe | Glu | Thr | Asp | Pro | Asp | Pro | Phe | Leu |
| | | | | | 85 | | | | 90 | | | | | 95 | | |
| 25 | Leu | Asp | Glu | Pro | Ala | Pro | Arg | Lys | Arg | Lys | Asn | Ser | Val | Lys | Val | Met |
| | | | | | 100 | | | | 105 | | | | | 110 | | |
| | Tyr | Lys | Cys | Leu | Trp | Pro | Asn | Cys | Gly | Lys | Val | Leu | Arg | Ser | Ile | Val |
| 30 | | | | | 115 | | | | 120 | | | 125 | | | | |
| | Gly | Ile | Lys | Arg | His | Val | Lys | Ala | Leu | His | Leu | Gly | Asp | Thr | Val | Asp |
| | | | | | 130 | | | | 135 | | | 140 | | | | |
| 35 | Ser | Asp | Gln | Phe | Lys | Arg | Glu | Glu | Asp | Phe | Tyr | Tyr | Thr | Glu | Val | Gln |
| | | | | | 145 | | | | 150 | | 155 | | | 160 | | |
| | Leu | Lys | Glu | Glu | Ser | Ala | Asp | Pro | |
| | | | | | 165 | | | | 170 | | | | | 175 | | |
| 40 | Gln | Ser | Leu | Gly | Leu | Pro | Pro | Pro | Ser | Gln | Leu | Pro | Pro | Pro | Ala | Xaa |
| | | | | | 180 | | | | 185 | | | | | 190 | | |

45

(2) INFORMATION FOR SEQ ID NO: 434:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 31 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 434:

| | | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | Met | Ser | Thr | Asn | Tyr | Leu | Thr | Asp | Val | Cys | Ser | Leu | Phe | Ser | Tyr | Leu |
| | 1 | | | | 5 | | | | 10 | | | | 15 | | | |
| 60 | Asn | Tyr | Leu | Tyr | Phe | His | His | Leu | Pro | Val | Pro | Asn | Thr | Xaa | | |

20

25

30

5 (2) INFORMATION FOR SEQ ID NO: 435:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 101 amino acids
- (B) TYPE: amino acid

10 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 435:

Met Gly Phe Phe Phe Val Leu Phe Phe Leu Tyr Leu Ala Leu Ser Arg
1 5 10 15

15 Asp Trp Ser Ile Asn Phe Leu Lys Asp His Arg Ile Asn Phe Phe Val
Asp Trp Ser Ile Asn Phe Leu Lys Asp His Arg Ile Asn Phe Phe Val
20 25 30

20 Ala Thr Ser Tyr Phe Ser Val Tyr Val Arg Gly Xaa Pro Xaa Val Pro
35 40 45

25 Ala Asp Thr Pro Leu Gly Pro Leu Leu Ser Leu Trp Leu His His Asn
50 55 60

25 Ala Phe Phe Ser Ile Leu Pro Lys Phe Pro Glu Asn Xaa Xaa Phe Leu
65 70 75 80
Ile Leu Lys Lys Leu Val Val Glu Met Gly Trp Asp Leu Phe Ile Ser
85 90 95

30 Pro Glu Asn Lys Xaa
100

35

(2) INFORMATION FOR SEQ ID NO: 436:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 37 amino acids
- (B) TYPE: amino acid

40 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 436:

45 Met Ala Arg Tyr Phe Ile Phe Phe Ile Leu Val Phe Met Lys Val Ser
1 5 10 15

Leu Asn Thr Thr Trp Pro Ala Pro Arg Pro Ala Thr Leu Arg Thr Ala
20 25 30

50 Asn Lys Ser Lys Xaa
35

55 (2) INFORMATION FOR SEQ ID NO: 437:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 42 amino acids
- (B) TYPE: amino acid

60 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 437:

5 Phe Ser Thr Ile Arg Ser Gly Leu Thr Asp Arg Ser Val Asn Phe Leu
1 5 10 15
5 Phe Leu Phe Leu Asp Val Pro Asp Cys Arg Leu Val Asn Ile Glu Leu
20 25 30
10 Met Ala Asn Ser Thr Val Thr His Ala Xaa
35 40

(2) INFORMATION FOR SEQ ID NO: 438:

15 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 1 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 438:

Leu
1

25 (2) INFORMATION FOR SEQ ID NO: 439:

30 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 25 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 439:

35 Met Pro Trp Arg Arg Ala Gly Leu Met Met Leu Pro Ile Ile Thr Gly
1 5 10 15
Cys Cys Pro Cys Ser Ala Ser Ile Xaa
20 25

40 (2) INFORMATION FOR SEQ ID NO: 440:

45 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 54 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 440:
50 Met Tyr Leu Cys Lys Thr Val Lys Val Leu Ile Cys Tyr Asp Trp Ile
1 5 10 15
Leu Gly Leu Val Ser Ser Gly Gln His Trp Val Val Ser Leu Ser Tyr
55 20 25 30

55 Ser Ile Arg Val Tyr Pro Ala Met His Phe Thr Leu Cys Val His Ile
35 40 45
60 Tyr Ser Lys Glu Pro Cys

50

5 (2) INFORMATION FOR SEQ ID NO: 441:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 42 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 441:

Met Thr Ala Leu Val Trp Arg Lys Gly Pro Asp Gly Gly Ser Arg Lys
1 5 10 15

Pro Ile Leu Leu Leu Phe Phe Phe Leu Pro Leu Ile Leu Cys Phe His
15 20 25 30

Ser Phe Ile His Ser Ser Asn Ile Cys Xaa
20 35 40

25 (2) INFORMATION FOR SEQ ID NO: 442:

25

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 66 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 442:

Met Phe Leu Thr Thr Trp Phe Leu Leu Leu Ser Val Ala Trp Xaa Ala
1 5 10 15

Leu Thr Arg Ser Gly Arg Ser Cys Leu Pro Leu Val Gly Arg Pro Arg
35 20 25 30

Glu Gln Ser Pro Arg Thr His Cys Ala Ala Ser Ser Thr Lys Glu Arg
35 40 45

Asn Ser Asp Pro Gln Pro Ser Pro Pro Glu Val Val Gly Pro Leu Trp
40 50 55 60

Ser Xaa
45 65

50 (2) INFORMATION FOR SEQ ID NO: 443:

50

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 156 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 443:

Met Lys Ala Ile Gly Ile Glu Pro Ser Leu Ala Thr Tyr His His Ile
1 5 10 15

Ile Arg Leu Phe Asp Gln Pro Gly Asp Pro Leu Lys Arg Ser Ser Phe
60

| | | | |
|----|---|-----|-----|
| | 20 | 25 | 30 |
| | | | |
| | Ile Ile Tyr Asp Ile Met Asn Glu Leu Met Gly Lys Arg Phe Ser Pro | | |
| | 35 | 40 | 45 |
| 5 | Lys Asp Pro Asp Asp Asp Lys Phe Phe Gln Ser Ala Met Ser Ile Cys | | |
| | 50 | 55 | 60 |
| | Ser Ser Leu Arg Asp Leu Glu Leu Ala Tyr Gln Val His Gly Leu Leu | | |
| 10 | 65 | 70 | 75 |
| | Lys Thr Gly Asp Asn Trp Lys Phe Ile Gly Pro Asp Gln His Arg Asn | | |
| | 85 | 90 | 95 |
| 15 | Phe Tyr Tyr Ser Lys Phe Phe Asp Leu Ile Cys Leu Met Glu Gln Ile | | |
| | 100 | 105 | 110 |
| | Asp Val Thr Leu Lys Trp Tyr Glu Asp Leu Ile Pro Ser Ala Tyr Phe | | |
| | 115 | 120 | 125 |
| 20 | Pro His Ser Gln Thr Met Ile His Leu Leu Gln Ala Leu Asp Val Ala | | |
| | 130 | 135 | 140 |
| | Asn Arg Leu Glu Val Ile Pro Lys Ile Trp Glu Arg | | |
| 25 | 145 | 150 | 155 |

(2) INFORMATION FOR SEQ ID NO: 444:

| | | | | |
|----|---|----|----|----|
| 30 | (i) SEQUENCE CHARACTERISTICS: | | | |
| | (A) LENGTH: 57 amino acids | | | |
| | (B) TYPE: amino acid | | | |
| | (D) TOPOLOGY: linear | | | |
| 35 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 444: | | | |
| | Met His Phe Leu Phe Arg Phe Ile Val Phe Phe Tyr Leu Trp Gly Leu | | | |
| | 1 | 5 | 10 | 15 |
| 40 | Phe Thr Ala Gln Arg Gln Lys Lys Glu Glu Ser Thr Glu Glu Val Lys | | | |
| | 20 | 25 | 30 | |
| | Ile Glu Val Leu His Arg Pro Glu Asn Cys Ser Lys Thr Ser Lys Lys | | | |
| | 35 | 40 | 45 | |
| 45 | Gly Asp Leu Leu Lys Cys Pro Leu Xaa | | | |
| | 50 | 55 | | |

50 (2) INFORMATION FOR SEQ ID NO: 445:

| | | | | |
|----|---|---|----|----|
| 55 | (i) SEQUENCE CHARACTERISTICS: | | | |
| | (A) LENGTH: 416 amino acids | | | |
| | (B) TYPE: amino acid | | | |
| | (D) TOPOLOGY: linear | | | |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 445: | | | |
| 60 | Met Arg Thr Leu Phe Asn Leu Leu Trp Leu Ala Leu Ala Cys Ser Pro | | | |
| | 1 | 5 | 10 | 15 |

Val His Thr Thr Leu Ser Lys Ser Asp Ala Lys Lys Ala Ala Ser Lys
 20 25 30

5 Thr Leu Leu Glu Lys Ser Gln Phe Ser Asp Lys Pro Val Gln Asp Arg
 35 40 45

Gly Leu Val Val Thr Asp Leu Lys Ala Glu Ser Val Val Leu Glu His
 50 55 60

10 Arg Ser Tyr Cys Ser Ala Lys Ala Arg Asp Arg His Phe Ala Gly Asp
 65 70 75 80

Val Leu Gly Tyr Val Thr Pro Trp Asn Ser His Gly Tyr Asp Val Thr
 15 85 90 95

Lys Val Phe Gly Ser Lys Phe Thr Gln Ile Ser Pro Val Trp Leu Gln
 100 105 110

20 Leu Lys Arg Arg Gly Arg Glu Met Phe Glu Val Thr Gly Leu His Asp
 115 120 125

Val Asp Gln Gly Trp Met Arg Ala Val Arg Lys His Ala Lys Gly Leu
 130 135 140

25 His Ile Val Pro Arg Leu Leu Phe Glu Asp Trp Thr Tyr Asp Asp Phe
 145 150 155 160

Arg Asn Val Leu Asp Ser Glu Asp Glu Ile Glu Glu Leu Ser Lys Thr
 30 165 170 175

Val Val Gln Val Ala Lys Asn Gln His Phe Asp Gly Phe Val Val Glu
 180 185 190

35 Val Trp Asn Gln Leu Leu Ser Gln Lys Arg Val Gly Leu Ile His Met
 195 200 205

Leu Thr His Leu Ala Glu Ala Leu His Gln Ala Arg Leu Leu Ala Leu
 210 215 220

40 Leu Val Ile Pro Pro Ala Ile Thr Pro Gly Thr Asp Gln Leu Gly Met
 225 230 235 240

Phe Thr His Lys Glu Phe Glu Gln Leu Ala Pro Val Leu Asp Gly Phe
 45 245 250 255

Ser Leu Met Thr Tyr Asp Tyr Ser Thr Ala His Gln Pro Gly Pro Asn
 260 265 270

50 Ala Pro Leu Ser Trp Val Arg Ala Cys Val Gln Val Leu Asp Pro Lys
 275 280 285

Ser Lys Trp Arg Ser Lys Ile Leu Leu Gly Leu Asn Phe Tyr Gly Met
 290 295 300

55 Asp Tyr Ala Thr Ser Lys Asp Ala Arg Glu Pro Val Val Gly Ala Arg
 305 310 315 320

Tyr Ile Gln Thr Leu Lys Asp His Arg Pro Arg Met Val Trp Asp Ser
 60 325 330 335

Gln Xaa Ser Glu His Phe Phe Glu Tyr Lys Lys Ser Arg Ser Gly Arg
 340 345 350
 5 His Val Val Phe Tyr Pro Thr Leu Lys Ser Leu Gln Val Arg Leu Glu
 355 360 365
 Leu Ala Arg Glu Leu Gly Val Gly Val Ser Ile Trp Glu Leu Ala Arg
 370 375 380
 10 Ala Trp Thr Thr Ser Thr Cys Ser Arg Trp Ala Leu Arg Pro Pro
 385 390 395 400
 Arg Trp Thr Cys Ser Phe Leu Ser His Gly Val Ser Glu Gln Val Xaa
 15 405 410 415

20

(2) INFORMATION FOR SEQ ID NO: 446:

25 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 64 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 446:
 30 Met Ala Pro Gly Pro Leu Ser Ala Thr Gln Ala Val Val Ile His Thr
 1 5 10 15
 Thr His Cys Leu Gln Leu Pro Val Trp Cys Leu Ser Leu Val Ser Glu
 20 25 30
 35 Leu Leu Gly Arg Ala Pro Pro His Asn Lys Asp Ala Leu Arg Pro Ser
 35 40 45
 Lys Lys Lys Lys Lys Leu Xaa Gly Gly Pro Val Pro Ile Pro Pro
 40 50 55 60

45

(2) INFORMATION FOR SEQ ID NO: 447:

50 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 206 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 447:
 55 Met Leu Gly Ala Lys Pro His Trp Leu Pro Gly Pro Leu His Ser Pro
 1 5 10 15
 Gly Leu Pro Leu Val Leu Val Leu Ala Leu Gly Ala Gly Trp Ala
 20 25 30
 60

590

Gln Glu Gly Ser Glu Pro Val Leu Leu Glu Gly Glu Cys Leu Val Val
 35 40 45
 5 Cys Glu Pro Gly Arg Ala Ala Ala Gly Pro Gly Gly Ala Ala Leu
 50 55 60
 Gly Glu Ala Pro Pro Gly Arg Val Ala Phe Ala Ala Val Arg Ser Xaa
 65 70 75 80
 10 His His Glu Pro Ala Gly Glu Thr Gly Asn Gly Thr Xaa Gly Ala Ile
 85 90 95
 Tyr Phe Asp Gln Val Leu Val Asn Glu Gly Gly Phe Asp Arg Ala
 100 105 110
 15 Ser Gly Ser Phe Val Ala Pro Val Arg Gly Val Tyr Ser Phe Arg Phe
 115 120 125
 His Val Val Lys Val Tyr Asn Arg Gln Thr Val Gln Val Ser Leu Met
 20 130 135 140
 Leu Asn Thr Trp Pro Val Ile Ser Ala Phe Ala Asn Asp Pro Asp Val
 145 150 155 160
 25 Thr Arg Glu Ala Ala Thr Ser Ser Val Leu Leu Pro Leu Asp Pro Gly
 165 170 175
 Asp Arg Val Ser Leu Arg Leu Arg Arg Gly Asn Leu Leu Gly Trp
 180 185 190
 30 Lys Tyr Ser Ser Phe Ser Gly Phe Leu Ile Phe Pro Leu Xaa
 195 200 205
 35

(2) INFORMATION FOR SEQ ID NO: 448:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 62 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 448:

Met Ser Ser Leu Leu Ser Ala Gly Leu Gln Ala Ser Leu Cys Gly Lys
 45 1 5 10 15
 Xaa Leu Trp Ala Ser Thr Trp Tyr Leu Val Cys Cys Leu Leu Pro Phe
 20 25 30
 50 Phe His Gln Gly Cys Cys Asp His Lys Ser Lys Gln Gln Tyr Ile Pro
 35 40 45
 Asn Leu Lys Ser Tyr Cys Gly Leu Ser Thr Ile Glu Ile Xaa
 50 55 60
 55

(2) INFORMATION FOR SEQ ID NO: 449:

60 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 316 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 449:

 5 Met Ser Thr Lys Lys Leu Cys Ile Val Gly Gly Ile Leu Leu Val Phe
 1 5 10 15

 10 Gln Ile Ile Ala Phe Leu Val Gly Gly Leu Ile Ala Pro Gly Pro Thr
 20 25 30

 15 Thr Ala Val Ser Tyr Met Ser Val Lys Cys Val Asp Ala Arg Lys Asn
 35 40 45

 20 15 His His Lys Thr Lys Trp Phe Val Pro Trp Gly Pro Asn His Cys Asp
 50 55 60

 25 Lys Ile Arg Asp Ile Glu Glu Ala Ile Pro Arg Glu Ile Glu Ala Asn
 65 70 75 80

 30 20 Asp Ile Val Phe Ser Val His Ile Pro Leu Pro His Met Glu Met Ser
 85 90 95

 35 25 Pro Trp Phe Gln Phe Met Xaa Phe Ile Leu Gln Leu Asp Ile Ala Phe
 100 105 110

 40 Lys Leu Asn Asn Gln Ile Arg Glu Asn Ala Glu Val Ser Met Asp Val
 115 120 125

 45 30 Ser Leu Ala Tyr Arg Asp Asp Ala Phe Ala Glu Trp Thr Glu Met Ala
 130 135 140

 50 His Glu Arg Val Pro Arg Lys Leu Lys Cys Thr Phe Thr Ser Pro Lys
 145 150 155 160

 55 45 Thr Pro Glu His Gly Gly Pro Val Thr Met Asn Val Met Ser Phe Leu
 165 170 175

 60 50 Ser Trp Lys Leu Gly Leu Trp Pro Met Lys Phe Tyr Leu Leu Asn Ile
 180 185 190

 65 55 Arg Leu Pro Val Asn Glu Lys Lys Ile Asn Val Gly Ile Gly Glu
 195 200 205

 70 60 Ile Lys Asp Ile Arg Leu Val Gly Ile His Gln Asn Gly Gly Phe Thr
 210 215 220

 75 65 Lys Val Trp Phe Ala Met Lys Thr Phe Leu Thr Pro Ser Ile Phe Ile
 225 230 235 240

 80 70 Ile Met Val Trp Tyr Trp Arg Arg Ile Thr Met Met Ser Arg Pro Pro
 245 250 255

 85 75 Val Leu Leu Glu Lys Val Ile Phe Ala Leu Gly Ile Ser Met Thr Phe
 260 265 270

 90 80 Ile Asn Ile Pro Val Glu Trp Phe Ser Ile Gly Phe Asp Trp Thr Trp
 275 280 285

 95 85 Met Leu Leu Phe Gly Asp Ile Arg Gln Ala Ser Ser Met Xaa Cys Phe

290 295 300

Xaa Pro Ser Gly Ser Ser Ser Val Ala Ser Thr Xaa
305 310 315

5

(2) INFORMATION FOR SEQ ID NO: 450:

10 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 24 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 450:

15 Met Leu Ala Leu Leu Gly Leu Leu Ala Gly Thr Glu His Pro Pro Gly
1 5 10 15

20 Pro Gln Gly Pro Gly Pro Ser Xaa
20

(2) INFORMATION FOR SEQ ID NO: 451:

25 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 10 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 451:

Met Pro Ser Gly Ala Cys Cys Ser Pro Xaa
1 5 10

35

(2) INFORMATION FOR SEQ ID NO: 452:

40 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 26 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 452:

45 Met Leu Pro Ala Leu Ser Thr Val Leu Leu Pro Thr Pro Ser Leu Cys
1 5 10 15

Ser Gly Asn Pro Arg Glu Gly Trp Ala Xaa
20 25

50

(2) INFORMATION FOR SEQ ID NO: 453:

55 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 172 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 453:

60

Met Tyr Ser Leu His Ser Trp Val Gly Leu Ile Ala Val Ile Cys Tyr
 1 5 10 15

5 Leu Leu Gln Leu Leu Ser Gly Phe Ser Val Phe Leu Leu Pro Trp Ala
 20 25 30

Pro Leu Ser Leu Arg Ala Phe Leu Met Pro Ile His Val Tyr Ser Gly
 35 40 45

10 Ile Val Ile Phe Gly Thr Val Ile Ala Thr Ala Leu Met Gly Leu Thr
 50 55 60

Glu Lys Leu Ile Phe Ser Leu Arg Asp Pro Ala Tyr Ser Thr Phe Pro
 65 70 75 80

15 Pro Glu Gly Val Phe Val Asn Thr Leu Gly Leu Leu Ile Leu Val Phe
 85 90 95

Gly Ala Leu Ile Phe Trp Ile Val Thr Arg Pro Gln Trp Lys Arg Pro
 20 100 105 110

Lys Glu Pro Asn Ser Thr Ile Leu His Pro Asn Gly Gly Thr Glu Gln
 115 120 125

25 Gly Ala Arg Gly Ser Met Pro Ala Tyr Ser Gly Asn Asn Met Asp Lys
 130 135 140

Ser Asp Ser Glu Leu Asn Xaa Glu Val Ala Ala Arg Lys Arg Asn Leu
 145 150 155 160

30 Ala Leu Asp Glu Ala Gly Gln Arg Ser Thr Met Xaa
 165 170

35

(2) INFORMATION FOR SEQ ID NO: 454:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 96 amino acids

40 (B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 454:

Met Phe His Val Leu Met Ala Gln Val Thr Xaa Val Ile Ile Thr Thr
 45 1 5 10 15

Val Ser Val Leu Val Phe Asp Phe Arg Pro Ser Leu Glu Phe Phe Leu
 20 25 30

50 Glu Ala Xaa Ser Val Xaa Leu Ser Ile Phe Ile Tyr Asn Ala Ser Lys
 35 40 45

Pro Gln Val Pro Glu Tyr Ala Pro Arg Gln Glu Arg Ile Arg Asp Leu
 55 50 55 60

Ser Gly Asn Leu Trp Glu Arg Ser Ser Gly Asp Gly Glu Glu Leu Glu
 65 70 75 80

60 Arg Leu Thr Lys Pro Lys Ser Asp Glu Ser Asp Glu Asp Thr Phe Xaa
 85 90 95

5

(2) INFORMATION FOR SEQ ID NO: 455:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 171 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 455:

15 Met Arg Gly Pro Ala Gln Ala Lys Leu Leu Pro Gly Ser Ala Ile Gln
1 5 10 15
Ala Leu Val Gly Leu Ala Arg Pro Leu Val Leu Ala Leu Leu Leu Val
20 25 30
20 Ser Ala Ala Leu Ser Ser Val Val Ser Arg Thr Asp Ser Pro Ser Pro
35 40 45
25 Thr Val Leu Asn Ser His Ile Ser Thr Pro Asn Val Asn Ala Leu Thr
50 55 60
His Glu Asn Gln Thr Lys Pro Ser Ile Ser Gln Ile Ser Thr Thr Leu
65 70 75 80
30 Pro Pro Thr Thr Ser Thr Lys Lys Ser Gly Gly Ala Ser Val Val Pro
85 90 95
His Pro Ser Pro Thr Pro Leu Ser Gln Glu Glu Ala Asp Asn Asn Glu
100 105 110
35 Asp Pro Ser Ile Glu Glu Asp Leu Leu Met Leu Asn Ser Ser Pro
115 120 125
Ser Thr Ala Lys Asp Thr Leu Asp Asn Gly Asp Tyr Gly Glu Pro Asp
40 130 135 140
Tyr Asp Trp Thr Thr Gly Pro Arg Asp Asp Asp Glu Ser Asp Xaa His
145 150 155 160
45 Leu Gly Arg Lys Gln Gly Leu His Gly Asn Xaa
165 170
50 (2) INFORMATION FOR SEQ ID NO: 456:

(i) SEQUENCE CHARACTERISTICS:

- 55 (A) LENGTH: 92 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 456:

Met Lys Ala Ser Gln Cys Cys Cys Cys Leu Ser His Leu Leu Ala Ser.
1 5 10 15
60

Val Leu Leu Leu Leu Leu Pro Glu Leu Ser Gly Xaa Leu Xaa Val
 20 25 30

Leu Leu Gln Ala Ala Glu Ala Ala Pro Gly Xaa Gly Pro Pro Asp Pro
 5 35 40 45

Arg Pro Gly His Tyr Arg Arg Cys His Arg Ala Leu Thr Pro Ala Gln
 50 55 60

10 Gln Pro Gly Arg Gly Leu Ala Glu Ala Ala Gly Ala Ala Gly Leu Arg
 65 70 75 80

Gly Arg Gln Trp Gln Gln Pro Cys Gly Arg Ala Xaa
 85 90

15

(2) INFORMATION FOR SEQ ID NO: 457:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 206 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 457:

25 Ile Ser Val Leu Xaa Tyr Pro His Cys Val Val His Glu Leu Pro Glu
 1 5 10 15

Leu Thr Ala Glu Ser Leu Glu Ala Gly Asp Ser Asn Gln Phe Cys Trp
 30 20 25 30

Arg Asn Leu Phe Ser Cys Ile Asn Leu Leu Arg Ile Leu Asn Lys Leu
 35 40 45

35 Thr Lys Trp Lys His Ser Arg Thr Met Met Leu Val Val Phe Lys Ser
 50 55 60

Ala Pro Ile Leu Lys Arg Ala Leu Lys Val Lys Gln Ala Met Met Gln
 65 70 75 80

40 Leu Tyr Val Leu Lys Leu Leu Lys Val Gln Thr Lys Tyr Leu Gly Arg
 85 90 95

Gln Trp Arg Lys Ser Asn Met Lys Thr Met Ser Ala Ile Tyr Gln Lys
 45 100 105 110

Val Arg His Arg Leu Asn Asp Asp Trp Ala Tyr Gly Asn Asp Leu Asp
 115 120 125

50 Ala Arg Pro Trp Asp Phe Gln Ala Glu Glu Cys Ala Leu Arg Ala Asn
 130 135 140

Ile Glu Arg Phe Asn Ala Arg Arg Tyr Asp Arg Ala His Ser Asn Pro
 145 150 155 160

55 Asp Phe Leu Pro Val Asp Asn Cys Leu Gln Ser Val Leu Gly Gln Arg
 165 170 175

60 Val Asp Leu Pro Glu Asp Phe Gln Met Asn Tyr Asp Leu Trp Leu Glu
 180 185 190

Arg Glu Val Phe Ser Lys Pro Ile Ser Trp Glu Glu Leu Leu
 195 200 205

5

(2) INFORMATION FOR SEQ ID NO: 458:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 317 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 458:

15 Met Ala Pro Pro Ala Pro Gly Pro Ala Ser Gly Gly Ser Gly Glu Val
1 5 10 15

Asp Glu Leu Phe Asp Val Lys Asn Ala Phe Tyr Ile Gly Ser Tyr Gln
20 25 30

20 Gln Cys Ile Asn Glu Ala Xaa Xaa Val Lys Leu Ser Ser Pro Glu Arg
 35 40 45

Asp Val Glu Arg Asp Val Phe Leu Tyr Arg Ala Tyr Leu Ala Gln Arg
 25 50 55 60

Lys Phe Gly Val Val Leu Asp Glu Ile Lys Pro Ser Ser Ala Pro Glu
 65 70 75 80

30 Leu Gln Ala Val Arg Met Phe Ala Asp Tyr Leu Ala His Glu Ser Arg
85 90 95

Arg Asp Ser Ile Val Ala Glu Leu Asp Arg Glu Met Ser Arg Ser Xaa
100 105 110

35 Asp Val Thr Asn Thr Thr Phe Leu Leu Met Ala Ala Ser Ile Tyr Leu
 115 120 125

40 His Asp Gln Asn Pro Asp Ala Ala Leu Arg Ala Leu His Gln Gly Asp
 130 135 140

Ser Leu Glu Cys Thr Ala Met Thr Val Gln Ile Leu Leu Lys Leu Asp
 145 150 155 160

45 Arg Leu Asp Leu Ala Arg Lys Glu Leu Lys Arg Met Gln Asp Leu Asp
165 170 175

Glu Asp Ala Thr Leu Thr Gln Leu Ala Thr Ala Trp Val Ser Leu Ala
180 185 190

50 Thr Gly Gly Glu Lys Leu Gln Asp Ala Tyr Tyr Ile Phe Gln Glu Met
 195 200 205

Ala Asp Lys Cys Ser Pro Thr Leu Leu Leu Leu Asn Gly Gln Ala Ala
210 215 220

Cys His Met Ala Gln Gly Arg Trp Glu Ala Ala Glu Gly Leu Leu Gln
 225 230 235 240

Glu Ala Leu Asp Lys Asp Ser Gly Tyr Pro Glu Thr Leu Val Asn Leu

| | 245 | 250 | 255 |
|----|---|-----|-----|
| | Ile Val Leu Ser Gln His Leu Gly Lys Pro Pro Glu Val Thr Asn Arg | | |
| | 260 | 265 | 270 |
| 5 | Tyr Leu Ser Gln Leu Lys Asp Ala His Arg Ser His Pro Phe Ile Lys | | |
| | 275 | 280 | 285 |
| | Glu Tyr Gln Ala Lys Glu Asn Asp Phe Asp Arg Leu Val Leu Gln Tyr | | |
| 10 | 290 | 295 | 300 |
| | Ala Pro Ser Ala Glu Ala Gly Pro Glu Leu Ser Gly Pro | | |
| | 305 | 310 | 315 |
| 15 | | | |
| | (2) INFORMATION FOR SEQ ID NO: 459: | | |
| | (i) SEQUENCE CHARACTERISTICS: | | |
| 20 | (A) LENGTH: 261 amino acids | | |
| | (B) TYPE: amino acid | | |
| | (D) TOPOLOGY: linear | | |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 459: | | |
| 25 | Arg Asp Val Glu Arg Asp Val Phe Leu Tyr Arg Ala Tyr Leu Ala Gln | | |
| | 1 | 5 | 10 |
| | Arg Lys Phe Gly Val Val Leu Asp Glu Ile Lys Pro Ser Ser Ala Pro | | |
| | 20 | 25 | 30 |
| 30 | Glu Leu Gln Ala Val Arg Met Phe Ala Asp Tyr Leu Ala His Glu Ser | | |
| | 35 | 40 | 45 |
| | Arg Arg Asp Ser Ile Val Ala Glu Leu Asp Arg Glu Met Ser Arg Ser | | |
| 35 | 50 | 55 | 60 |
| | Xaa Asp Val Thr Asn Thr Phe Leu Leu Met Ala Ala Ser Ile Tyr | | |
| | 65 | 70 | 75 |
| | 80 | | |
| 40 | Leu His Asp Gln Asn Pro Asp Ala Ala Leu Arg Ala Leu His Gln Gly | | |
| | 85 | 90 | 95 |
| | Asp Ser Leu Glu Cys Thr Ala Met Thr Val Gln Ile Leu Leu Lys Leu | | |
| | 100 | 105 | 110 |
| 45 | Asp Arg Leu Asp Leu Ala Arg Lys Glu Leu Lys Arg Met Gln Asp Leu | | |
| | 115 | 120 | 125 |
| | Asp Glu Asp Ala Thr Leu Thr Gln Leu Ala Thr Ala Trp Val Ser Leu | | |
| 50 | 130 | 135 | 140 |
| | Ala Thr Gly Gly Glu Lys Leu Gln Asp Ala Tyr Tyr Ile Phe Gln Glu | | |
| | 145 | 150 | 155 |
| | 160 | | |
| 55 | Met Ala Asp Lys Cys Ser Pro Thr Leu Leu Leu Asn Gly Gln Ala | | |
| | 165 | 170 | 175 |
| | Ala Cys His Met Ala Gln Gly Arg Trp Glu Ala Ala Glu Gly Leu Leu | | |
| | 180 | 185 | 190 |
| 60 | | | |

Gln Glu Ala Leu Asp Lys Asp Ser Gly Tyr Pro Glu Thr Leu Val Asn
 195 200 205

Leu Ile Val Leu Ser Gln His Leu Gly Lys Pro Pro Glu Val Thr Asn
 5 210 215 220

Arg Tyr Leu Ser Gln Leu Lys Asp Ala His Arg Ser His Pro Phe Ile
 225 230 235 240

Lys Glu Tyr Gln Ala Lys Glu Asn Asp Phe Asp Arg Leu Val Leu Gln
 10 245 250 255

Tyr Ala Pro Ser Ala
 260

15

(2) INFORMATION FOR SEQ ID NO: 460:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 156 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 460:

25 Met Lys Ala Ile Gly Ile Glu Pro Ser Leu Ala Thr Tyr His His Ile
 1 5 10 15

Ile Arg Leu Phe Asp Gln Pro Gly Asp Pro Leu Lys Arg Ser Ser Phe
 30 20 25 30

Ile Ile Tyr Asp Ile Met Asn Glu Leu Met Gly Lys Arg Phe Ser Pro
 35 40 45

35 Lys Asp Pro Asp Asp Asp Lys Phe Phe Gln Ser Ala Met Ser Ile Cys
 50 55 60

Ser Ser Leu Arg Asp Leu Glu Leu Ala Tyr Gln Val His Gly Leu Leu
 65 70 75 80

40 Lys Thr Gly Asp Asn Trp Lys Phe Ile Gly Pro Asp Gln His Arg Asn
 85 90 95

Phe Tyr Tyr Ser Lys Phe Phe Asp Leu Ile Cys Leu Met Glu Gln Ile
 45 100 105 110

Asp Val Thr Leu Lys Trp Tyr Glu Asp Leu Ile Pro Ser Ala Tyr Phe
 115 120 125

50 Pro His Ser Gln Thr Met Ile His Leu Leu Gln Ala Leu Asp Val Ala
 130 135 140

Asn Arg Leu Glu Val Ile Pro Lys Ile Trp Glu Arg
 145 150 155

55

(2) INFORMATION FOR SEQ ID NO: 461:

60 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 176 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 461:

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| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Asp | Ser | Lys | Glu | Tyr | Gly | His | Thr | Phe | Arg | Ser | Asp | Leu | Arg | Glu |
| 1 | | | 5 | | | | 10 | | | | | | 15 | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Ile | Leu | Met | Leu | Met | Ala | Arg | Asp | Lys | His | Pro | Pro | Glu | Leu | Gln |
| 10 | | 20 | | 25 | | | | | 30 | | | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Ala | Phe | Ala | Asp | Cys | Ala | Ala | Asp | Ile | Lys | Ser | Ala | Tyr | Glu | Ser |
| 35 | | | | | 40 | | | | | 45 | | | | | |

| | | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 15 | Gln | Pro | Ile | Arg | Gln | Thr | Ala | Gln | Asp | Trp | Pro | Ala | Thr | Ser | Leu | Asn |
| | 50 | | | | 55 | | | | | 60 | | | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Ile | Ala | Ile | Leu | Phe | Leu | Arg | Ala | Gly | Arg | Thr | Gln | Glu | Ala | Trp |
| 65 | | | | 70 | | | 75 | | | 80 | | | | | |

| | | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 20 | Lys | Met | Leu | Gly | Leu | Phe | Arg | Lys | His | Asn | Lys | Ile | Pro | Arg | Ser | Glu |
| | | 85 | | | | 90 | | | | 95 | | | | | | |

| | | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 25 | Leu | Leu | Asn | Glu | Leu | Met | Asp | Ser | Ala | Lys | Val | Ser | Asn | Ser | Pro | Ser |
| | | 100 | | | 105 | | | | | 110 | | | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Ala | Ile | Glu | Val | Val | Glu | Leu | Ala | Ser | Ala | Phe | Ser | Leu | Pro | Ile |
| 115 | | | | 120 | | | | | | 125 | | | | | |

| | | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 30 | Cys | Glu | Gly | Leu | Thr | Gln | Arg | Val | Met | Ser | Asp | Phe | Ala | Ile | Asn | Gln |
| | 130 | | | | 135 | | | | 140 | | | | | | | |

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Glu | Gln | Lys | Glu | Ala | Leu | Ser | Asn | Leu | Thr | Ala | Leu | Thr | Ser | Asp | Ser | |
| 145 | | | | 150 | | | | 155 | | 160 | | | | | | |

| | | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| 35 | Asp | Thr | Asp | Ser | Ser | Ser | Asp | Ser | Asp | Thr | Ser | Glu | Gly | Lys | | |
| | | | | | 165 | | | 170 | | 175 | | | | | | |

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(2) INFORMATION FOR SEQ ID NO: 462:

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(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 324 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 462:

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Ser | Asp | Asn | Glu | Ser | Asp | Ile | Glu | Asp | Glu | Asp | Leu | Lys | Leu |
| 1 | | | | 5 | | | | 10 | | | | 15 | | | |

| | | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 55 | Glu | Leu | Arg | Arg | Leu | Arg | Asp | Lys | His | Leu | Lys | Glu | Ile | Gln | Asp | Leu |
| | | 20 | | | 25 | | | | 30 | | | | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Ser | Arg | Gln | Lys | His | Glu | Ile | Glu | Ser | Leu | Tyr | Thr | Lys | Leu | Gly |
| | | | 35 | | | 40 | | | 45 | | | | | | |

60

600

Lys Val Pro Pro Ala Val Ile Ile Pro Pro Ala Ala Pro Leu Ser Gly
 50 55 60

Arg Arg Arg Arg Pro Thr Lys Ser Lys Gly Ser Ser Lys Ser Arg Ser
 5 65 70 75 80

Ser Ser Leu Gly Asn Lys Ser Pro Gln Leu Ser Gly Asn Leu Ser Gly
 85 90 95

10 Gln Ser Ala Ala Ser Val Leu His Pro Gln Gln Thr Leu His Pro Pro
 100 105 110

Gly Asn Ile Pro Glu Ser Gly Gln Asn Gln Leu Leu Gln Pro Leu Lys
 115 120 125

15 Pro Ser Pro Ser Ser Asp Asn Leu Tyr Ser Ala Phe Thr Ser Asp Gly
 130 135 140

Ala Ile Ser Val Pro Ser Leu Ser Ala Pro Gly Gln Gly Thr Ser Ser
 20 145 150 155 160

Thr Asn Thr Val Gly Ala Thr Val Asn Ser Gln Ala Ala Gln Ala Gln
 165 170 175

25 Pro Pro Ala Met Thr Ser Ser Arg Lys Gly Thr Phe Thr Asp Asp Leu
 180 185 190

His Lys Leu Val Asp Asn Trp Ala Arg Asp Ala Met Asn Leu Ser Gly
 195 200 205

30 Arg Arg Gly Ser Lys Gly His Met Asn Tyr Glu Gly Pro Gly Met Ala
 210 215 220

Arg Lys Phe Ser Ala Pro Gly Gln Leu Cys Ile Ser Met Thr Ser Asn
 35 225 230 235 240

Leu Gly Gly Ser Ala Pro Ile Ser Ala Ala Ser Ala Thr Ser Leu Gly
 245 250 255

40 His Phe Thr Lys Ser Met Cys Pro Pro Gln Gln Tyr Gly Phe Pro Ala
 260 265 270

Thr Pro Phe Gly Ala Gln Trp Ser Gly Thr Gly Gly Pro Ala Pro Gln
 275 280 285

45 Pro Leu Gly Gln Phe Gln Pro Val Gly Thr Ala Ser Leu Gln Asn Phe
 290 295 300

Asn Ile Ser Asn Leu Gln Lys Ser Ile Ser Asn Pro Pro Gly Ser Asn
 50 305 310 315 320

Leu Arg Thr Thr

55

(2) INFORMATION FOR SEQ ID NO: 463:

(i) SEQUENCE CHARACTERISTICS:

60 (A) LENGTH: 133 amino acids

601

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 463:

5 Ile Gln Asp Leu Gln Ser Arg Gln Lys His Glu Ile Glu Ser Leu Tyr
1 5 10 15

Thr Lys Leu Gly Lys Val Pro Pro Ala Val Ile Ile Pro Pro Ala Ala
20 25 30

10 Pro Leu Ser Gly Arg Arg Arg Pro Thr Lys Ser Lys Gly Ser Lys
35 40 45

15 Ser Ser Arg Ser Ser Leu Gly Asn Lys Ser Pro Gln Leu Ser Gly
50 55 60

Asn Leu Ser Gly Gln Ser Ala Ala Ser Val Leu His Pro Gln Gln Thr
65 70 75 80

20 Leu His Pro Pro Gly Asn Ile Pro Glu Ser Gly Gln Asn Gln Leu Leu
85 90 95

Gln Pro Leu Lys Pro Ser Pro Ser Asp Asn Leu Tyr Ser Ala Phe
100 105 110

25 Thr Ser Asp Gly Ala Ile Ser Val Pro Ser Leu Ser Ala Pro Gly Gln
115 120 125

30 Gly Thr Ser Ser Thr
130

(2) INFORMATION FOR SEQ ID NO: 464:

35

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 53 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 464:

Thr Ser Asp Gly Ala Ile Ser Val Pro Ser Leu Ser Ala Pro Gly Gln
1 5 10 15

45 Gly Thr Ser Ser Thr Asn Thr Val Gly Ala Thr Val Asn Ser Gln Ala
20 25 30

Ala Gln Ala Gln Pro Pro Ala Met Thr Ser Ser Arg Lys Gly Thr Phe
35 40 45

50 Thr Asp Asp Leu His
50

55

(2) INFORMATION FOR SEQ ID NO: 465:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 48 amino acids
- (B) TYPE: amino acid

60

602

(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 465:

5 Lys Gly His Met Asn Tyr Glu Gly Pro Gly Met Ala Arg Lys Phe Ser
1 5 10 15
Ala Pro Gly Gln Leu Cys Ile Ser Met Thr Ser Asn Leu Gly Gly Ser
20 25 30
10 Ala Pro Ile Ser Ala Ala Ser Ala Thr Ser Leu Gly His Phe Thr Lys
35 40 45

15

(2) INFORMATION FOR SEQ ID NO: 466:

20 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 466:

25 Gln Pro Leu Lys Pro Ser Pro Ser Ser Asp Asn Leu Tyr Ser Ala Phe
1 5 10 15
Thr Ser Asp Gly Ala Ile Ser Val Pro Ser Leu Ser Ala Pro Gly
30 20 25 30

(2) INFORMATION FOR SEQ ID NO: 467:

35 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 57 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 467:

Val Arg Val Ala Ala Ala Glu Ser Met Xaa Leu Leu Leu Glu Cys Ala
1 5 10 15
45 Xaa Val Arg Gly Pro Glu Tyr Leu Thr Gln Met Trp His Phe Met Cys
20 25 30
Asp Ala Leu Ile Lys Ala Ile Gly Thr Glu Pro Asp Ser Asp Val Leu
35 40 45
50 Ser Glu Ile Met His Ser Phe Ala Lys
50 55

55

(2) INFORMATION FOR SEQ ID NO: 468:

60 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 85 amino acids
(B) TYPE: amino acid

603

(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 468:

5 Met Glu Ile Asn Asn Gln Asn Cys Phe Ile Val Ile Asp Leu Val Arg
1 5 10 15

Thr Val Met Glu Asn Gly Val Glu Gly Leu Leu Ile Phe Gly Ala Phe
20 25 30

10 Leu Pro Glu Ser Trp Leu Ile Gly Val Arg Cys Ser Ser Glu Pro Pro
35 40 45

Lys Ala Leu Leu Leu Ile Leu Ala His Ser Gln Lys Arg Arg Leu Asp
50 55 60

15 Gly Trp Ser Phe Ile Arg His Leu Arg Val His Tyr Cys Val Ser Leu
65 70 75 80

Thr Ile His Phe Ser
20 85

25 (2) INFORMATION FOR SEQ ID NO: 469:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 469:

Gln Asp Lys His Ala Glu Glu Val Arg Lys Asn Lys Glu Leu Lys Glu
1 5 10 15

35 Glu Ala Ser Arg
20

40 (2) INFORMATION FOR SEQ ID NO: 470:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 92 amino acids
(B) TYPE: amino acid
45 (D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 470:

Gln Gln Asp Leu Ser Pro Trp Ala Ala Pro Val Gly Cys Pro Leu Xaa
1 5 10 15

50 Xaa Ala Ser Xaa Thr Cys His Xaa Leu Pro Leu Ser Gly Cys Leu Arg
20 25 30

Arg Gln Ser Xaa Ser Leu Pro Val Val Ala Xaa Leu Cys Phe Trp Phe
55 35 40 45

Ser Cys Pro Leu Ala Ser Leu Phe Val Pro Gly Gln Pro Cys Val Thr
50 55 60

60 Cys Pro Phe Pro Ser Leu Pro Phe Gln Asp Lys His Ala Glu Val

604

| | | | |
|---|----|----|----|
| 65 | 70 | 75 | 80 |
| Arg Lys Asn Lys Glu Leu Lys Glu Glu Ala Ser Arg | | | |
| 85 90 | | | |

5

(2) INFORMATION FOR SEQ ID NO: 471:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 37 amino acids
 (B) TYPE: amino acid
 (C) TOPOLOGY: linear
 (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 471:
 15 Pro Thr Arg Cys Cys Thr Thr Gln Pro Cys Arg Ser Ser Ala Arg Arg
 1 5 10 15
 20 Pro Cys Trp Val Pro Met Val Pro Ser Pro Glu Gly Arg Glu Xaa Gln
 20 25 30
 25 Pro Thr Cys Pro Ser
 35

25

(2) INFORMATION FOR SEQ ID NO: 472:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 363 amino acids
 (B) TYPE: amino acid
 (C) TOPOLOGY: linear
 (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 472:
 35 Met Lys Arg Ser Leu Asn Glu Asn Ser Ala Arg Ser Thr Ala Gly Cys
 2 5 10 15
 40 Leu Pro Val Pro Leu Phe Asn Gln Lys Lys Arg Asn Arg Gln Pro Leu
 20 25 30
 45 Thr Ser Asn Pro Leu Lys Asp Asp Ser Gly Ile Ser Thr Pro Ser Asp
 35 40 45
 50 Asn Tyr Asp Phe Pro Pro Leu Pro Thr Asp Trp Ala Trp Glu Ala Val
 50 55 60
 55 Asn Pro Glu Xaa Ala Pro Val Met Lys Thr Val Asp Thr Gly Gln Ile
 65 70 75 80
 60 Ser Ile Gln Ser Asn Thr Gly Arg Ser Gln Gly Gly Trp Ser Tyr Arg
 100 105 110
 65 Asp Gly Asn Lys Asn Thr Ser Leu Lys Thr Trp Xaa Lys Asn Asp Phe
 115 120 125
 70 Lys Pro Gln Cys Lys Arg Thr Asn Leu Val Ala Asn Asp Gly Lys Asn
 130 135 140

605

Ser Cys Pro Met Ser Ser Gly Ala Gln Gln Gln Lys Gln Leu Arg Thr
 145 150 155 160
 5 Pro Glu Pro Pro Asn Leu Ser Arg Asn Lys Glu Thr Glu Leu Leu Arg
 165 170 175
 Gln Thr His Ser Ser Lys Ile Ser Gly Cys Thr Met Arg Gly Leu Asp
 180 185 190
 10 Lys Asn Ser Ala Leu Gln Thr Leu Lys Pro Asn Phe Gln Gln Asn Gln
 195 200 205
 Tyr Lys Xaa Gln Met Leu Asp Asp Ile Pro Glu Asp Asn Thr Leu Lys
 15 210 215 220
 Glu Thr Ser Leu Tyr Gln Leu Gln Phe Lys Glu Lys Ala Ser Ser Leu
 225 230 235 240
 20 Arg Ile Ile Ser Ala Val Ile Glu Ser Met Lys Tyr Trp Arg Glu His
 245 250 255
 Ala Gln Lys Thr Val Leu Leu Phe Glu Val Leu Ala Val Leu Asp Ser
 260 265 270
 25 Ala Val Thr Pro Gly Pro Tyr Tyr Ser Lys Thr Phe Leu Met Arg Asp
 275 280 285
 Gly Lys Asn Thr Leu Pro Cys Val Phe Tyr Glu Ile Asp Arg Glu Leu
 30 290 295 300
 Pro Arg Leu Ile Arg Gly Arg Val His Arg Cys Val Gly Asn Tyr Asp
 305 310 315 320
 35 Gln Lys Lys Asn Ile Phe Gln Cys Val Ser Val Arg Pro Ala Ser Val
 325 330 335
 Ser Glu Gln Lys Thr Phe Gln Ala Phe Val Lys Ile Ala Asp Val Glu
 340 345 350
 40 Met Gln Tyr Tyr Ile Asn Val Met Asn Glu Thr
 355 360
 45 (2) INFORMATION FOR SEQ ID NO: 473:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 45 amino acids
 50 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 473:
 Ser Gln Asp Ser Val Phe Asn Ser Ile Gln Ser Asn Thr Gly Arg Ser
 55 1 5 10 15
 Gln Gly Gly Trp Ser Tyr Arg Asp Gly Asn Lys Asn Thr Ser Leu Lys
 20 25 30
 60 Thr Trp Xaa Lys Asn Asp Phe Lys Pro Gln Cys Lys Arg

35 40 45

5 (2) INFORMATION FOR SEQ ID NO: 474:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 36 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 474:

Asn Lys Glu Thr Glu Leu Leu Arg Gln Thr His Ser Ser Ser Lys Ile Ser
 1 5 10 15

15 Gly Cys Thr Met Arg Gly Leu Asp Lys Asn Ser Ala Leu Gln Thr Leu
 20 25 30

20 Lys Pro Asn Phe
35

(2) INFORMATION FOR SEQ ID NO: 475:

25

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 49 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

(D) TOPOLOGY: linear
30 (iii) SEQUENCE DESCRIPTION: SEQ ID NO: 475:

Ser Ser Leu Arg Ile Ile Ser Ala Val Ile Glu Ser Met Lys Tyr Trp
1 5 10 15

35 Arg Glu His Ala Gln Lys Thr Val Leu Leu Phe Glu Val Leu Ala Val
20 25 30

Leu Asp Ser Ala Val Thr Pro Gly Pro Tyr Tyr Ser Lys Thr Phe Leu
35 40 45

40

45

(2) INFORMATION FOR SEQ ID NO: 476:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 42 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 476:

55 Pro Arg Leu Ile Arg Gly Arg Val His Arg Cys Val Gly Asn Tyr Asp
 1 5 10 15

Gln Lys Lys Asn Ile Phe Gln Cys Val Ser Val Arg Pro Ala Ser Val
20 25 30 .

60 Ser Glu Gln Lys Thr Phe Gln Ala Phe Val

35

40

5 (2) INFORMATION FOR SEQ ID NO: 477:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 370 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 477:

| | | | | |
|---|-----|-----|-----|-----|
| Gly Val Phe Arg Pro Cys Val Cys Gly Arg Pro Ala Ser Leu Thr Cys | | | | |
| 1 | 5 | 10 | 15 | |
| Ser Pro Leu Asp Pro Glu Val Gly Pro Tyr Cys Asp Thr Pro Thr Met | | | | |
| 15 | 20 | 25 | 30 | |
| Arg Thr Leu Phe Asn Leu Leu Trp Leu Ala Leu Ala Cys Ser Pro Val | | | | |
| 20 | 35 | 40 | 45 | |
| His Thr Thr Leu Ser Lys Ser Asp Ala Lys Lys Ala Ala Ser Lys Thr | | | | |
| 25 | 50 | 55 | 60 | |
| Leu Leu Glu Lys Ser Gln Phe Ser Asp Lys Pro Val Gln Asp Arg Gly | | | | |
| 30 | 65 | 70 | 75 | 80 |
| Leu Val Val Thr Asp Leu Lys Ala Glu Ser Val Val Leu Glu His Arg | | | | |
| 35 | 85 | 90 | 95 | |
| Ser Tyr Cys Ser Ala Lys Ala Arg Asp Arg His Phe Ala Gly Asp Val | | | | |
| 40 | 100 | 105 | 110 | |
| Leu Gly Tyr Val Thr Pro Trp Asn Ser His Gly Tyr Asp Val Thr Lys | | | | |
| 45 | 115 | 120 | 125 | |
| Val Phe Gly Ser Lys Phe Thr Gln Ile Ser Pro Val Trp Leu Gln Leu | | | | |
| 50 | 130 | 135 | 140 | |
| Lys Arg Arg Gly Arg Glu Met Phe Glu Val Thr Gly Leu His Asp Val | | | | |
| 55 | 145 | 150 | 155 | 160 |
| Asp Gln Gly Trp Met Arg Ala Val Arg Lys His Ala Lys Gly Leu His | | | | |
| 60 | 165 | 170 | 175 | |
| Ile Val Pro Arg Leu Leu Phe Glu Asp Trp Thr Tyr Asp Asp Phe Arg | | | | |
| 65 | 180 | 185 | 190 | |
| Asn Val Leu Asp Ser Glu Asp Glu Ile Glu Glu Leu Ser Lys Thr Val | | | | |
| 70 | 195 | 200 | 205 | |
| Val Gln Val Ala Lys Asn Gln His Phe Asp Gly Phe Val Val Glu Val | | | | |
| 75 | 210 | 215 | 220 | |
| Trp Asn Gln Leu Leu Ser Gln Lys Arg Val Gly Leu Ile His Met Leu | | | | |
| 80 | 225 | 230 | 235 | 240 |
| Thr His Leu Ala Glu Ala Leu His Gln Ala Arg Leu Leu Ala Leu Leu | | | | |
| 85 | 245 | 250 | 255 | |

Val Ile Pro Pro Ala Ile Thr Pro Gly Thr Asp Gln Leu Gly Met Phe
 260 265 270
 Thr His Lys Glu Phe Glu Gln Leu Ala Pro Val Leu Asp Gly Phe Ser
 5 275 280 285
 Leu Met Thr Tyr Asp Tyr Ser Thr Ala His Gln Pro Gly Pro Asn Ala
 290 295 300
 10 Pro Leu Ser Trp Val Arg Ala Cys Val Gln Val Leu Asp Pro Lys Xaa
 305 310 315 320
 Lys Trp Arg Thr Lys Ser Ser Trp Gly Ser Thr Ser Met Xaa Trp Thr
 325 330 335
 15 Xaa Arg Xaa Pro Xaa Asp Ala Arg Xaa Pro Val Val Gly Xaa Arg Xaa
 340 345 350
 20 Ile Gln Xaa Leu Lys Asp His Xaa Pro Arg Met Val Leu Asp Ser Lys
 355 360 365
 Pro Gln
 370

25

(2) INFORMATION FOR SEQ ID NO: 478:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 39 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 478:
 35 Thr Cys Ser Pro Leu Asp Pro Glu Val Gly Pro Tyr Cys Asp Thr Pro
 1 5 10 15
 Thr Met Arg Thr Leu Phe Asn Leu Leu Trp Leu Ala Leu Ala Cys Ser
 20 25 30
 40 Pro Val His Thr Thr Leu Ser
 35

45

(2) INFORMATION FOR SEQ ID NO: 479:

50 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 54 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 479:
 55 Leu Val Val Thr Asp Leu Lys Ala Glu Ser Val Val Leu Glu His Arg
 1 5 10 15
 Ser Tyr Cys Ser Ala Lys Ala Arg Asp Arg His Phe Ala Gly Asp Val
 20 25 30
 60 Leu Gly Tyr Val Thr Pro Trp Asn Ser His Gly Tyr Asp Val Thr Lys

35 40 45

Val Phe Gly Ser Lys Phe
50

5

(2) INFORMATION FOR SEQ ID NO: 480:

10 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 52 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 480:

15 Arg Glu Met Phe Glu Val Thr Gly Leu His Asp Val Asp Gln Gly Trp
1 5 10 15

| | |
|----|---|
| 20 | Met Arg Ala Val Arg Lys His Ala Lys Gly Leu His Ile Val Pro Arg |
| | 20 25 30 |

Leu Leu Phe Glu Asp Trp Thr Tyr Asp Asp Phe Arg Asn Val Leu Asp
35 40 45

25 Ser Glu Asp Glu
50

30 (2) INFORMATION FOR SEQ ID NO: 481:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 56 amino acids
 - (B) TYPE: amino acid

(D) TOPOLOGY: linear

His Phe Asp Gly Phe Val Val Glu Val Trp Asn Gln Leu Leu Ser Gln
1 5 10 15

40 1 5 10
Lys Arg Val Gly Leu Ile His Met Leu Thr His Leu Ala Glu Ala Leu
 20 25 30

45 His Gln Ala Arg Leu Leu Ala Leu Leu Val Ile Pro Pro Ala Ile Thr
 35 40 45

Pro Gly Thr Asp Gln Leu Gly Met
50 55

50

(2) INFORMATION FOR SEQ ID NO: 482:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 47 amino acids
 - (B) TYPE: amino acid
 - (C) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 482:

60 Asp Gly Phe Ser Leu Met Thr Tyr Asp Tyr Ser Thr Ala His Gln Pro

610

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 5 | 10 | 15 | | | | | | | | | | | | |
| Gly | Pro | Asn | Ala | Pro | Leu | Ser | Trp | Val | Arg | Ala | Cys | Val | Gln | Val | Leu |
| | | | | 20 | | | 25 | | | | | | 30 | | |

| | | | | | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5 | Asp | Pro | Lys | Xaa | Lys | Trp | Arg | Thr | Lys | Ser | Ser | Trp | Gly | Ser | Thr |
| | | | | 35 | | | 40 | | | | | 45 | | | |

10 (2) INFORMATION FOR SEQ ID NO: 483:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 152 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 483:

| | | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 20 | Glu | Arg | Gly | Val | Ser | Ile | Asn | Gln | Phe | Cys | Lys | Glu | Phe | Asn | Glu | Arg |
| | 1 | | | 5 | | | 10 | | | | | 15 | | | | |
| 25 | Thr | Lys | Asp | Ile | Lys | Glu | Gly | Ile | Pro | Leu | Pro | Thr | Lys | Ile | Leu | Val |
| | 20 | | | | 25 | | | | | | | 30 | | | | |
| 30 | Lys | Pro | Asp | Arg | Thr | Phe | Glu | Ile | Lys | Ile | Gly | Gln | Pro | Thr | Val | Ser |
| | 35 | | | | | 40 | | | | | | 45 | | | | |
| 35 | Tyr | Phe | Leu | Lys | Ala | Ala | Ala | Gly | Ile | Glu | Lys | Gly | Ala | Arg | Gln | Thr |
| | 50 | | | | | 55 | | | | | | 60 | | | | |
| 40 | Gly | Lys | Gl | Val | Ala | Gly | Leu | Val | Thr | Leu | Lys | His | Val | Tyr | Glu | Ile |
| | 65 | | | | 70 | | | | 75 | | | 80 | | | | |
| 45 | Ala | Arg | Ile | Lys | Ala | Gln | Asp | Glu | Ala | Phe | Ala | Leu | Gln | Asp | Val | Pro |
| | 85 | | | | 90 | | | | | | | 95 | | | | |
| 50 | Leu | Ser | Ser | Val | Val | Arg | Ser | Ile | Ile | Gly | Ser | Ala | Arg | Ser | Leu | Gly |
| | 100 | | | | 105 | | | | | | | 110 | | | | |
| 55 | Ile | Arg | Val | Val | Lys | Asp | Leu | Ser | Ser | Glu | Glu | Leu | Ala | Ala | Phe | Gln |
| | 115 | | | | 120 | | | | | | | 125 | | | | |
| 60 | Lys | Glu | Arg | Ala | Ile | Phe | Leu | Ala | Ala | Gln | Lys | Glu | Ala | Asp | Leu | Ala |
| | 130 | | | | 135 | | | | | | | 140 | | | | |
| 65 | Ala | Gln | Glu | Glu | Ala | Ala | Lys | Lys | | | | | | | | |
| | 145 | | | | 150 | | | | | | | | | | | |

50 (2) INFORMATION FOR SEQ ID NO: 484:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 270 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 484:

| | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 60 | Ala | Val | Tyr | Thr | Tyr | His | Glu | Lys | Lys | Asp | Thr | Ala | Ala | Ser | Gly |
| | 1 | | | 5 | | | 10 | | | | 15 | | | | |

Tyr Gly Thr Gln Asn Ile Arg Leu Ser Arg Asp Ala Val Lys Asp Phe
 20 25 30

5 Asp Cys Cys Cys Leu Ser Leu Gln Pro Cys His Asp Pro Val Val Thr
 35 40 45

Pro Asp Gly Tyr Leu Tyr Glu Arg Glu Ala Ile Leu Glu Tyr Ile Leu
 50 55 60

10 His Gln Lys Lys Glu Ile Ala Arg Gln Met Lys Ala Tyr Glu Lys Gln
 65 70 75 80

Arg Gly Thr Arg Arg Glu Glu Gln Lys Glu Leu Gln Arg Ala Ala Ser
 15 85 90 95

Gln Asp His Val Arg Gly Phe Leu Glu Lys Glu Ser Ala Ile Val Ser
 100 105 110

20 Arg Pro Leu Asn Pro Phe Thr Ala Lys Ala Leu Ser Gly Thr Ser Pro
 115 120 125

Asp Asp Val Gln Pro Gly Pro Ser Val Gly Pro Pro Ser Lys Asp Lys
 130 135 140

25 Asp Lys Val Leu Pro Ser Phe Trp Ile Pro Ser Leu Thr Pro Glu Ala
 145 150 155 160

Lys Ala Thr Lys Leu Glu Lys Pro Ser Arg Thr Val Thr Cys Pro Met
 30 165 170 175

Ser Gly Lys Pro Leu Arg Met Ser Asp Leu Thr Pro Val His Phe Thr
 180 185 190

35 Pro Leu Asp Ser Ser Val Asp Arg Val Gly Leu Ile Thr Arg Ser Glu
 195 200 205

Arg Tyr Val Cys Ala Val Thr Arg Asp Ser Leu Ser Asn Ala Thr Pro
 210 215 220

40 Cys Ala Val Leu Arg Pro Ser Gly Ala Val Val Thr Leu Glu Cys Val
 225 230 235 240

Glu Lys Leu Ile Arg Lys Asp Met Val Asp Pro Val Thr Gly Asp Lys
 45 245 250 255

Leu Thr Asp Arg Asp Ile Ile Val Leu Gln Arg Gly Gly Thr
 260 265 270

50

(2) INFORMATION FOR SEQ ID NO: 485:

55 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 54 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 485:

60 Tyr Leu Tyr Glu Arg Glu Ala Ile Leu Glu Tyr Ile Leu His Gln Lys

612

1 5 10 15
Lys Glu Ile Ala Arg Gln Met Lys Ala Tyr Glu Lys Gln Arg Gly Thr
20 25 30
5 Arg Arg Glu Glu Gln Lys Glu Leu Gln Arg Ala Ala Ser Gln Asp His
35 40 45
Val Arg Gly Phe Leu Glu
10 50

(2) INFORMATION FOR SEQ ID NO: 486:

15 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 64 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 486:

Phe Thr Ala Lys Ala Leu Ser Gly Thr Ser Pro Asp Asp Val Gln Pro
1 5 10 15
25 Gly Pro Ser Val Gly Pro Pro Ser Lys Asp Lys Asp Lys Val Leu Pro
20 25 30
 Ser Phe Trp Ile Pro Ser Leu Thr Pro Glu Ala Lys Ala Thr Lys Leu
35 40 45
30 Glu Lys Pro Ser Arg Thr Val Thr Cys Pro Met Ser Gly Lys Pro Leu
50 55 60

35

(2) INFORMATION FOR SEQ ID NO: 487:

40 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 56 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 487:

Val His Phe Thr Pro Leu Asp Ser Ser Val Asp Arg Val Gly Leu Ile
1 5 10 15
50 Thr Arg Ser Glu Arg Tyr Val Cys Ala Val Thr Arg Asp Ser Leu Ser
20 25 30
 Asn Ala Thr Pro Cys Ala Val Leu Arg Pro Ser Gly Ala Val Val Thr
35 40 45
55 Leu Glu Cys Val Glu Lys Leu Ile
50 55

60

(2) INFORMATION FOR SEQ ID NO: 488:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 567 amino acids

5 (B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 488:

| | | |
|----|---|--|
| | Met Asp Thr Ser Glu Asn Arg Pro Glu Asn Asp Val Pro Glu Pro | |
| 10 | 1 5 10 15 | |
| | Met Pro Ile Ala Asp Gln Val Ser Asn Asp Asp Arg Pro Glu Gly Ser | |
| | 20 25 30 | |
| 15 | Val Glu Asp Glu Glu Lys Lys Glu Ser Ser Leu Pro Lys Ser Phe Lys | |
| | 35 40 45 | |
| | Arg Lys Ile Ser Val Val Ser Ala Thr Lys Gly Val Pro Ala Gly Asn | |
| | 50 55 60 | |
| 20 | Ser Asp Thr Glu Gly Gly Gln Pro Gly Arg Lys Arg Arg Trp Gly Ala | |
| | 65 70 75 80 | |
| 25 | Ser Thr Ala Thr Thr Gln Lys Lys Pro Ser Ile Ser Ile Thr Thr Glu | |
| | 85 90 95 | |
| | Ser Leu Lys Ser Leu Ile Pro Asp Ile Lys Pro Leu Ala Gly Gln Glu | |
| | 100 105 110 | |
| 30 | Ala Val Val Asp Leu His Ala Asp Asp Ser Arg Ile Ser Glu Asp Glu | |
| | 115 120 125 | |
| | Thr Glu Arg Asn Gly Asp Asp Gly Thr His Asp Lys Gly Leu Lys Ile | |
| | 130 135 140 | |
| 35 | Cys Arg Thr Val Thr Gln Val Val Pro Ala Glu Gly Gln Glu Asn Gly | |
| | 145 150 155 160 | |
| 40 | Gln Arg Glu Glu Glu Glu Glu Lys Glu Pro Glu Ala Glu Pro Pro | |
| | 165 170 175 | |
| | Val Pro Pro Gln Val Ser Val Glu Val Ala Leu Pro Pro Ala Glu | |
| | 180 185 190 | |
| 45 | His Glu Val Lys Lys Val Thr Leu Gly Asp Thr Leu Thr Arg Arg Ser | |
| | 195 200 205 | |
| | Ile Ser Gln Gln Lys Ser Gly Val Ser Ile Thr Ile Asp Asp Pro Val | |
| | 210 215 220 | |
| 50 | Arg Thr Ala Gln Val Pro Ser Pro Pro Arg Gly Lys Ile Ser Asn Ile | |
| | 225 230 235 240 | |
| 55 | Val His Ile Ser Asn Leu Val Arg Pro Phe Thr Leu Gly Gln Leu Lys | |
| | 245 250 255 | |
| | Glu Leu Leu Gly Arg Thr Gly Thr Leu Val Glu Glu Ala Phe Trp Ile | |
| | 260 265 270 | |
| 60 | Asp Lys Ile Lys Ser His Cys Phe Val Thr Tyr Ser Thr Val Glu Glu | |

614

| | 275 | 280 | 285 |
|----|---|-----|-----|
| | Ala Val Ala Thr Arg Thr Ala Leu His Gly Val Lys Trp Pro Gln Ser | | |
| | 290 | 295 | 300 |
| 5 | Asn Pro Lys Phe Leu Cys Ala Asp Tyr Ala Glu Gln Asp Glu Leu Asp | | |
| | 305 | 310 | 315 |
| | Tyr His Arg Gly Leu Leu Val Asp Arg Pro Ser Glu Thr Lys Thr Glu | | |
| 10 | 325 | 330 | 335 |
| | Glu Gln Gly Ile Pro Arg Pro Leu His Pro Pro Pro Pro Pro Val | | |
| | 340 | 345 | 350 |
| 15 | Gln Pro Pro Gln His Pro Arg Ala Glu Gln Arg Glu Gln Glu Arg Ala | | |
| | 355 | 360 | 365 |
| | Val Arg Glu Gln Trp Ala Glu Arg Glu Met Glu Arg Arg Arg Glu | | |
| | 370 | 375 | 380 |
| 20 | Arg Thr Arg Ser Glu Arg Glu Trp Asp Arg Asp Lys Val Arg Glu Gly | | |
| | 385 | 390 | 395 |
| | Pro Arg Ser Arg Ser Arg Xaa Arg Arg Arg Lys Glu Arg Ala | | |
| 25 | 405 | 410 | 415 |
| | Lys Ser Lys Glu Lys Lys Ser Glu Lys Lys Glu Lys Ala Gln Glu Glu | | |
| | 420 | 425 | 430 |
| 30 | Pro Pro Ala Lys Leu Leu Asp Asp Leu Phe Arg Lys Thr Lys Ala Ala | | |
| | 435 | 440 | 445 |
| | Pro Cys Ile Tyr Trp Leu Pro Leu Thr Asp Ser Gln Ile Val Gln Lys | | |
| | 450 | 455 | 460 |
| 35 | Glu Ala Glu Arg Ala Glu Arg Ala Lys Glu Arg Glu Lys Arg Arg Lys | | |
| | 465 | 470 | 475 |
| | Glu Gln Glu Glu Glu Gln Lys Glu Arg Glu Lys Glu Ala Glu Arg | | |
| 40 | 485 | 490 | 495 |
| | Glu Arg Asn Arg Gln Leu Glu Arg Glu Lys Arg Arg Glu His Ser Arg | | |
| | 500 | 505 | 510 |
| 45 | Glu Arg Asp Arg Glu Arg Glu Arg Glu Arg Asp Arg Gly Asp | | |
| | 515 | 520 | 525 |
| | Arg Asp Arg Asp Arg Glu Arg Asp Arg Glu Arg Gly Arg Glu Arg Asp | | |
| | 530 | 535 | 540 |
| 50 | Arg Arg Asp Thr Lys Arg His Ser Arg Ser Arg Ser Arg Ser Thr Pro | | |
| | 545 | 550 | 555 |
| | Val Arg Asp Arg Gly Gly Arg | | |
| 55 | 565 | | |

(2) INFORMATION FOR SEQ ID NO: 489:

60

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 51 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 489:

Gly Cys Asp Ser Cys Pro Pro His Leu Pro Arg Glu Ala Phe Ala Gln
1 5 10 15

10 Asp Thr Gln Ala Glu Gly Glu Cys Ser Ser Arg Ala Glu Arg Ala Asp
20 25 30

Met Cys Pro Asp Ala Pro Pro Ser Gln Glu Val Pro Glu Gly Pro Gly
35 40 45

15 Ala Ala Pro
50

20 (2) INFORMATION FOR SEQ ID NO: 490:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 50 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 490:

30 Pro Gln Leu Pro Ser Cys Gly Arg Pro Trp Pro Gly Thr Ala Ser Val
1 5 10 15

Phe Gln Ser His Thr Gln Gly Pro Arg Glu Asp Pro Asp Pro Cys Arg
20 25 30

35 Ala Gln Gly Ser Ala Gly Thr His Cys Pro Ile Ser Leu Ser Pro Pro
35 40 45

Arg Gln
50

40

(2) INFORMATION FOR SEQ ID NO: 491:

45 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 42 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 491:

50 Pro Gly Phe Arg Gly Pro Ser Gly Ser Leu Gly Cys Ser Phe Phe Pro
1 5 10 15

55 Arg Ser Leu Gly Arg Val Leu Pro Pro Gly Cys Gln Arg Pro Gly Ala
20 25 30

His Ala Asp Ser Ser Pro Pro Pro Thr Pro
35 40

60

(2) INFORMATION FOR SEQ ID NO: 492:

(i) SEQUENCE CHARACTERISTICS:

5 (A) LENGTH: 84 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 492:

10 Glu Asp Leu Lys Lys Pro Asp Pro Ala Ser Leu Arg Ala Ala Ser Cys
1 5 10 15

Gly Glu Gly Lys Lys Arg Lys Ala Cys Lys Asn Cys Thr Cys Gly Leu
20 25 30

15 Ala Glu Glu Leu Glu Lys Glu Lys Ser Arg Glu Gln Met Ser Ser Gln
35 40 45

Pro Lys Ser Ala Cys Gly Asn Cys Tyr Leu Gly Asp Ala Phe Arg Cys
20 50 55 60

Ala Ser Cys Pro Tyr Leu Gly Met Pro Ala Phe Lys Pro Gly Glu Lys
65 70 75 80

25 Val Leu Leu Ser

30 (2) INFORMATION FOR SEQ ID NO: 493:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 90 amino acids
(B) TYPE: amino acid

35 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 493:

Glu Asp Leu Lys Lys Pro Asp Pro Ala Ser Leu Arg Ala Ala Ser Cys
1 5 10 15

Gly Glu Gly Lys Lys Arg Lys Ala Cys Lys Asn Cys Thr Cys Gly Leu
20 25 30

40 Ala Glu Glu Leu Glu Lys Glu Lys Ser Arg Glu Gln Met Ser Ser Gln
45 35 40 45

Pro Lys Ser Ala Cys Gly Asn Cys Tyr Leu Gly Asp Ala Phe Arg Cys
50 55 60

50 Ala Ser Cys Pro Tyr Leu Gly Met Pro Ala Phe Lys Pro Gly Glu Lys
65 70 75 80

Val Leu Leu Ser Asp Ser Asn Leu His Asp
85 90

55

(2) INFORMATION FOR SEQ ID NO: 494:

60 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 34 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 494:

5

Cys Gly Asn Cys Tyr Leu Gly Asp Ala Phe Arg Cys Ala Ser Cys Pro
1 5 10 15

10

Tyr Leu Gly Met Pro Ala Phe Lys Pro Gly Glu Lys Val Leu Leu Ser
20 25 30

Asp Ser

15

(2) INFORMATION FOR SEQ ID NO: 495:

20

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 25 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 495:

25

Ser Cys Gly Glu Gly Lys Lys Arg Lys Ala Cys Lys Asn Cys Thr Cys
1 5 10 15

30

Gly Leu Ala Glu Glu Leu Glu Lys Glu
20 25

(2) INFORMATION FOR SEQ ID NO: 496:

35

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 496:

40

Ser Gln Pro Lys Ser Ala Cys Gly Asn Cys Tyr Leu Gly Asp Ala Phe
1 5 10 15

45

Arg Cys Ala Ser Cys
20

50

(2) INFORMATION FOR SEQ ID NO: 497:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 17 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 497:

Arg Glu Ala Gly Gln Asn Ser Glu Arg Gln Tyr Val Ser Leu Ser Arg
1 5 10 15

60 Asp

5 (2) INFORMATION FOR SEQ ID NO: 498:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 90 amino acids
(B) TYPE: amino acid
10 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 498:

Glu Ser Ser Gly Gln Ala Arg Thr Leu Ala Asp Pro Gly Pro Gly Trp
1 5 10 15
15 Pro Arg Gln Gln Gly Met Cys Phe Gly Ser Leu Thr Gly Leu Ser Thr
20 25 30
20 Thr Pro His Gly Phe Leu Thr Val Ser Ala Glu Ala Asp Pro Arg Leu
35 40 45
25 Ile Glu Ser Leu Ser Gln Met Leu Ser Met Gly Phe Ser Asp Glu Gly
50 55 60
25 Gly Trp Leu Thr Arg Leu Leu Gln Thr Lys Asn Tyr Asp Ile Gly Ala
65 70 75 80
30 Ala Leu Asp Thr Ile Gln Tyr Ser Lys His
85 90
30

(2) INFORMATION FOR SEQ ID NO: 499:

35 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 159 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 499:

40 Gln Glu Gly Ser Glu Pro Val Leu Leu Glu Gly Glu Cys Leu Val Val
1 5 10 15
45 Cys Glu Pro Gly Arg Ala Ala Gly Gly Pro Gly Gly Ala Ala Leu
20 25 30
45 Gly Glu Ala Pro Pro Gly Arg Val Ala Phe Xaa Ala Val Arg Ser His
35 40 45
50 His His Glu Pro Ala Gly Glu Thr Gly Asn Gly Thr Ser Gly Ala Ile
50 55 60
55 Tyr Phe Asp Gln Val Leu Val Asn Glu Gly Gly Phe Asp Arg Ala
65 70 75 80
55 Ser Gly Ser Phe Val Ala Pro Val Arg Gly Val Tyr Ser Phe Arg Phe
85 90 95
60 His Val Val Lys Val Tyr Asn Arg Gln Thr Val Gln Val Ser Leu Met
100 105 110

Leu Asn Thr Trp Pro Val Ile Ser Ala Phe Ala Asn Asp Pro Asp Val
115 120 125

5 Thr Arg Glu Ala Ala Thr Ser Ser Val Leu Leu Pro Leu Asp Pro Gly
130 135 140

Asp Arg Val Ser Leu Arg Arg Gly Xaa Ser Thr Gly Trp
145 150 155

10

(2) INFORMATION FOR SEQ ID NO: 500:

15 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 32 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 500:

20 Pro Arg Ser Arg Pro Ala Leu Arg Pro Gly Arg Gln Arg Pro Pro Ser
1 5 10 15

His Ser Ala Thr Ser Gly Val Leu Arg Pro Arg Lys Lys Pro Asp Pro
25 20 25 30

30

(2) INFORMATION FOR SEQ ID NO: 501:

35 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 501:

40 Met Thr Leu Ile Thr Pro Ser Xaa Lys Leu Thr Phe Xaa Lys Gly Asn
1 5 10 15

Lys Ser Trp Ser Ser Arg Ala Cys Ser Ser Thr Leu Val Asp Pro
20 25 30

45

(2) INFORMATION FOR SEQ ID NO: 502:

50 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 51 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 502:

55 Gly His Pro Ser Pro Ala Leu Ser Ile Ala Pro Ser Asp Gly Ser Gln
1 5 10 15

Leu Pro Cys Asp Glu Val Pro Tyr Gly Glu Ala His Val Thr Arg Tyr
60 20 25 30

Cys Lys Lys Pro Leu Thr Asn Ser His Leu Glu Thr Glu Ala Gln Ser
 35 40 45

5 Ser Ser Leu
 50

10 (2) INFORMATION FOR SEQ ID NO: 503:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 263 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 503:

| | | |
|----|--|-----|
| 20 | GCTTCGTGTC CAACCCCTCTT GCCCTTCGCC TGTGTGCCTG GAGCCAGTCC CACCACGCTC | 60 |
| | CGGTTTCCTC CTGTAGTGCT CACAGGTCCC AGCACCGATG GCATTCCCTT TGCCCTGAGT | 120 |
| 25 | CTGCAGCGGG TCCCTTTTGT GCTTCCTTCC CCTCAGGTAG CCTCTCTCCC CCTGGGCCAC | 180 |
| | TCCCCGGGGT GAGGGGGTTA CCCCTTCCCA GTGTTTTTA TTCCCTGTGGG GCTCACCCCA | 240 |
| | AAGTATTAAA AGTAGCTTIG TAA | 263 |

30

(2) INFORMATION FOR SEQ ID NO: 504:

- 35 (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 263 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 504:

| | | |
|----|--|-----|
| | GCTTCGTGTC CAACCCCTCTT GCCCTTCGCC TGTGTGCCTG GAGCCAGTCC CACCACGCTC | 60 |
| 45 | CGGTTTCCTC CTGTAGTGCT CACAGGTCCC AGCACCGATG GCATTCCCTT TGCCCTGAGT | 120 |
| | CTGCAGCGGG TCCCTTTTGT GCTTCCTTCC CCTCAGGTAG CCTCTCTCCC CCTGGGCCAC | 180 |
| 50 | TCCCCGGGGT GAGGGGGTTA CCCCTTCCCA GTGTTTTTA TTCCCTGTGGG GCTCACCCCA | 240 |
| | AAGTATTAAA AGTAGCTTIG TAA | 263 |

55

(2) INFORMATION FOR SEQ ID NO: 505:

- 60 (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 263 base pairs
 - (B) TYPE: nucleic acid

(C) STRANDEDNESS: double
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 505:

| | | |
|----|--|-----|
| 5 | GCTTCGTGTC CAACCCCTCTT GCCCTTCGCC TGTGTGCCIG GAGCCAGTCC CACCACGCTC | 60 |
| | GGGTTTCCTC CTGTAGTGCT CACAGGTCCC AGCACCGATG GCATTCCCTT TGCCCTGAGT | 120 |
| 10 | CTGCAGCGGG TCCCTTTTGT GCTTCCTTCC CCTCAGGTAG CCTCTCTCCC CCTGGGCCAC | 180 |
| | TCCCCGGGGT GAGGGGGTTA CCCCTCCCA GTGTTTTTA TTCCTGTGGG GCTCACCCCA | 240 |
| 15 | AAGTATTAAA AGTAGCTTGT TAA | 263 |

(2) INFORMATION FOR SEQ ID NO: 506:

| | | |
|----|---|-----|
| 20 | (i) SEQUENCE CHARACTERISTICS: | |
| | (A) LENGTH: 160 base pairs | |
| | (B) TYPE: nucleic acid | |
| 25 | (C) STRANDEDNESS: double | |
| | (D) TOPOLOGY: linear | |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 506: | |
| 30 | TGGCTCACTG TCCTACAATC ACTGCTGTGG AATCATGATA CCACTTTAG CTCCTTGAT | 60 |
| | CTTCCTTCAG TGTATTTTG TTTTCAAGA GGAAGTAGAT TTTAACTGGA CAACTTTGAG | 120 |
| | TACTGACATC ATTGATAAT AAACTGGCTT GTGGMPTCAA | 160 |

35

(2) INFORMATION FOR SEQ ID NO: 507:

| | | |
|----|---|--|
| 40 | (i) SEQUENCE CHARACTERISTICS: | |
| | (A) LENGTH: 292 amino acids | |
| | (B) TYPE: amino acid | |
| | (D) TOPOLOGY: linear | |
| 45 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 507: | |
| | Leu Asp Glu Leu Met Ala His Leu Thr Glu Met Gln Ala Lys Val Ala | |
| | 1 5 10 15 | |
| 50 | Val Arg Ala Asp Ala Gly Lys Lys His Leu Pro Asp Lys Gln Asp His | |
| | 20 25 30 | |
| | Lys Ala Ser Leu Asp Ser Met Leu Gly Leu Glu Gln Glu Leu Gln | |
| | 35 40 45 | |
| 55 | Asp Leu Gly Ile Ala Thr Val Pro Lys Gly His Cys Ala Ser Cys Gln | |
| | 50 55 60 | |
| | Lys Pro Ile Ala Gly Lys Val Ile His Ala Leu Gly Gln Ser Trp His | |
| | 65 70 75 80 | |

60

Pro Glu His Phe Val Cys Thr His Cys Lys Glu Glu Ile Gly Ser Ser
 85 90 95
 Pro Phe Phe Glu Arg Ser Gly Leu Xaa Tyr Cys Pro Asn Asp Tyr His
 5 100 105 110
 Gln Leu Phe Ser Pro Arg Cys Ala Tyr Cys Ala Ala Pro Ile Leu Asp
 115 120 125
 10 Lys Val Leu Thr Ala Met Asn Gln Thr Trp His Pro Glu His Phe Phe
 130 135 140
 Cys Ser His Cys Gly Glu Val Phe Gly Ala Glu Gly Phe His Glu Lys
 145 150 155 160
 15 Asp Lys Lys Pro Tyr Cys Arg Lys Asp Phe Leu Ala Met Phe Ser Pro
 165 170 175
 Lys Cys Gly Gly Cys Asn Arg Pro Val Leu Glu Asn Tyr Leu Ser Ala
 20 180 185 190
 Met Asp Thr Val Trp His Pro Glu Cys Phe Val Cys Gly Asp Cys Phe
 195 200 205
 25 Thr Ser Phe Ser Thr Gly Ser Phe Phe Glu Leu Asp Gly Arg Pro Phe
 210 215 220
 Cys Glu Leu His Tyr His His Arg Arg Gly Thr Leu Cys His Gly Cys
 225 230 235 240
 30 Gly Gln Pro Ile Thr Gly Arg Cys Ile Ser Ala Met Gly Tyr Lys Phe
 245 250 255
 His Pro Glu His Phe Val Cys Ala Phe Cys Leu Thr Gln Leu Ser Lys
 35 260 265 270
 Gly Ile Phe Arg Glu Gln Asn Asp Lys Thr Tyr Cys Gln Pro Cys Phe
 275 280 285
 40 Asn Lys Leu Phe
 290

45 (2) INFORMATION FOR SEQ ID NO: 508:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 43 amino acids
 (B) TYPE: amino acid
 50 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 508:
 Lys Ala Ser Leu Asp Ser Met Leu Gly Gly Leu Glu Gln Glu Leu Gln
 1 5 10 15
 55 Asp Leu Gly Ile Ala Thr Val Pro Lys Gly His Cys Ala Ser Cys Gln
 20 25 30
 Lys Pro Ile Ala Gly Lys Val Ile His Ala Leu
 60 35 40

(2) INFORMATION FOR SEQ ID NO: 509:

5

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 50 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 509:

Cys Pro Asn Asp Tyr His Gln Leu Phe Ser Pro Arg Cys Ala Tyr Cys
1 5 10 15

15 Ala Ala Pro Ile Leu Asp Lys Val Leu Thr Ala Met Asn Gln Thr Trp
20 25 30

His Pro Glu His Phe Phe Cys Ser His Cys Gly Glu Val Phe Gly Ala
35 40 45

20 Glu Gly
50

25

(2) INFORMATION FOR SEQ ID NO: 510:

30

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 67 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 510:

Asp Lys Lys Pro Tyr Cys Arg Lys Asp Phe Leu Ala Met Phe Ser Pro
35 1 5 10 15

Lys Cys Gly Gly Cys Asn Arg Pro Val Leu Glu Asn Tyr Leu Ser Ala
20 25 30

40 Met Asp Thr Val Trp His Pro Glu Cys Phe Val Cys Gly Asp Cys Phe
35 40 45

Thr Ser Phe Ser Thr Gly Ser Phe Phe Glu Leu Asp Gly Arg Pro Phe
50 55 60

45 Cys Glu Leu
65

50

(2) INFORMATION FOR SEQ ID NO: 511:

55

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 46 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 511:

Cys Gly Gln Pro Ile Thr Gly Arg Cys Ile Ser Ala Met Gly Tyr Lys
60 1 5 10 15

Phe His Pro Glu His Phe Val Cys Ala Phe Cys Leu Thr Gln Leu Ser
 20 25 30

5 Lys Gly Ile Phe Arg Glu Gln Asn Asp Lys Thr Tyr Cys Gln
 35 40 45

10 (2) INFORMATION FOR SEQ ID NO: 512:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 452 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 512:

Met Gly Ser Ser Gln Ser Val Glu Ile Pro Gly Gly Gly Thr Glu Gly
 1 5 10 15

20 Tyr His Val Leu Arg Val Gln Glu Asn Ser Pro Gly His Arg Ala Gly
 20 25 30

25 Leu Glu Pro Phe Phe Asp Phe Ile Val Ser Ile Asn Gly Ser Arg Leu
 35 40 45

Asn Lys Asp Asn Asp Thr Leu Lys Asp Leu Leu Lys Xaa Asn Val Glu
 50 55 60

30 Lys Pro Val Lys Met Leu Ile Tyr Ser Ser Lys Thr Leu Glu Leu Arg
 65 70 75 80

Glu Thr Ser Val Thr Pro Ser Asn Leu Trp Gly Gly Gln Gly Leu Leu
 85 90 95

35 Gly Val Ser Ile Arg Phe Cys Ser Phe Asp Gly Ala Asn Glu Asn Val
 100 105 110

40 Trp His Val Leu Glu Val Glu Ser Asn Ser Pro Ala Ala Leu Ala Gly
 115 120 125

Leu Arg Pro His Ser Asp Tyr Ile Ile Gly Ala Asp Thr Val Met Asn
 130 135 140

45 Glu Ser Glu Asp Leu Phe Ser Leu Ile Glu Thr His Glu Ala Lys Pro
 145 150 155 160

Ley Lys Ley Tyr Val Tyr Asn Thr Asp Thr Asp Asn Cys Arg Glu Val
 165 170 175

50 Ile Ile Thr Pro Asn Ser Ala Trp Gly Gly Glu Gly Ser Ley Gly Cys
 180 185 190

55 Gly Ile Gly Tyr Gly Tyr Ley His Arg Ile Pro Thr Arg Pro Phe Glu
 195 200 205

Glu Gly Lys Lys Ile Ser Ley Pro Gly Gln Met Ala Gly Thr Pro Ile
 210 215 220

60 Thr Pro Ley Lys Asp Gly Phe Thr Glu Val Gln Ley Ser Ser Val Asn

625

| | | | | |
|----|--|-----|-----|-----|
| | 225 | 230 | 235 | 240 |
| | Pro Pro Ser Leu Ser Pro Pro Gly Thr Thr Gly Ile Glu Gln Ser Leu | | | |
| | 245 | 250 | 255 | |
| 5 | Thr Gly Leu Ser Ile Ser Ser Thr Pro Pro Ala Val Ser Ser Val Leu | | | |
| | 260 | 265 | 270 | |
| | Ser Thr Gly Val Pro Thr Val Pro Leu Leu Pro Pro Gln Val Asn Gln | | | |
| 10 | 275 | 280 | 285 | |
| | Ser Leu Thr Ser Val Pro Pro Met Asn Pro Ala Thr Thr Leu Pro Gly | | | |
| | 290 | 295 | 300 | |
| 15 | Leu Met Pro Leu Pro Ala Gly Leu Pro Asn Leu Pro Asn Leu Asn Leu | | | |
| | 305 | 310 | 315 | 320 |
| | Asn Leu Pro Ala Pro His Ile Met Pro Gly Val Gly Leu Pro Glu Leu | | | |
| | 325 | 330 | 335 | |
| 20 | Val Asn Pro Gly Leu Pro Pro Leu Pro Ser Met Pro Pro Arg Asn Leu | | | |
| | 340 | 345 | 350 | |
| | Pro Gly Ile Ala Pro Leu Pro Leu Pro Ser Glu Phe Leu Pro Ser Phe | | | |
| 25 | 355 | 360 | 365 | |
| | Pro Leu Val Pro Glu Ser Ser Ser Ala Ala Ser Ser Gly Glu Leu Leu | | | |
| | 370 | 375 | 380 | |
| 30 | Ser Ser Leu Pro Pro Thr Ser Asn Ala Pro Ser Asp Pro Ala Thr Thr | | | |
| | 385 | 390 | 395 | 400 |
| | Thr Ala Lys Ala Asp Ala Ala Ser Ser Leu Thr Val Asp Val Thr Pro | | | |
| | 405 | 410 | 415 | |
| 35 | Pro Thr Ala Lys Ala Pro Thr Thr Val Glu Asp Arg Val Gly Asp Ser | | | |
| | 420 | 425 | 430 | |
| | Thr Pro Val Ser Glu Lys Pro Val Ser Ala Ala Val Asp Ala Asn Ala | | | |
| 40 | 435 | 440 | 445 | |
| | Ser Glu Ser Pro | | | |
| | 450 | | | |
| 45 | | | | |
| | (2) INFORMATION FOR SEQ ID NO: 513: | | | |
| | (i) SEQUENCE CHARACTERISTICS: | | | |
| 50 | (A) LENGTH: 109 amino acids | | | |
| | (B) TYPE: amino acid | | | |
| | (D) TOPOLOGY: linear | | | |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 513: | | | |
| 55 | Ser Val Glu Ile Pro Gly Gly Thr Glu Gly Tyr His Val Leu Arg | | | |
| | 1 | 5 | 10 | 15 |
| | Val Gln Glu Asn Ser Pro Gly His Arg Ala Gly Leu Glu Pro Phe Phe. | | | |
| | 20 | 25 | 30 | |
| 60 | | | | |

| | |
|----|---|
| | Asp Phe Ile Val Ser Ile Asn Gly Ser Arg Leu Asn Lys Asp Asn Asp |
| | 35 40 45 |
| 5 | Thr Leu Lys Asp Leu Leu Lys Xaa Asn Val Glu Lys Pro Val Lys Met |
| | 50 55 60 |
| | Leu Ile Tyr Ser Ser Lys Thr Leu Glu Leu Arg Glu Thr Ser Val Thr |
| | 65 70 75 80 |
| 10 | Pro Ser Asn Leu Trp Gly Gly Gln Gly Leu Leu Gly Val Ser Ile Arg |
| | 85 90 95 |
| | Phe Cys Ser Phe Asp Gly Ala Asn Glu Asn Val Trp His |
| | 100 105 |
| 15 | |

(2) INFORMATION FOR SEQ ID NO: 514:

| | |
|----|---|
| 20 | (i) SEQUENCE CHARACTERISTICS: |
| | (A) LENGTH: 145 amino acids |
| | (B) TYPE: amino acid |
| | (D) TOPOLOGY: linear |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 514: |
| 25 | Glu Ser Asn Ser Pro Ala Ala Leu Ala Gly Leu Arg Pro His Ser Asp |
| | 1 5 10 15 |
| 30 | Tyr Ile Ile Gly Ala Asp Thr Val Met Asn Glu Ser Glu Asp Leu Phe |
| | 20 25 30 |
| | Ser Leu Ile Glu Thr His Glu Ala Lys Pro Leu Lys Leu Tyr Val Tyr |
| | 35 40 45 |
| 35 | Asn Thr Asp Thr Asp Asn Cys Arg Glu Val Ile Ile Thr Pro Asn Ser |
| | 50 55 60 |
| | Ala Trp Gly Gly Glu Gly Ser Leu Gly Cys Gly Ile Gly Tyr Gly Tyr |
| | 65 70 75 80 |
| 40 | Leu His Arg Ile Pro Thr Arg Pro Phe Glu Glu Gly Lys Lys Ile Ser |
| | 85 90 95 |
| 45 | Leu Pro Gly Gln Met Ala Gly Thr Pro Ile Thr Pro Leu Lys Asp Gly |
| | 100 105 110 |
| | Phe Thr Glu Val Gln Leu Ser Ser Val Asn Pro Pro Ser Leu Ser Pro |
| | 115 120 125 |
| 50 | Pro Gly Thr Thr Gly Ile Glu Gln Ser Leu Thr Gly Leu Ser Ile Ser |
| | 130 135 140 |
| 55 | Ser |
| | 145 |

(2) INFORMATION FOR SEQ ID NO: 515:

60 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 145 amino acids
 (B) TYPE: amino acid

(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 515:

5 Glu Ser Asn Ser Pro Ala Ala Leu Ala Gly Leu Arg Pro His Ser Asp
1 5 10 15

10 Tyr Ile Ile Gly Ala Asp Thr Val Met Asn Glu Ser Glu Asp Leu Phe
 20 25 30

Ser Leu Ile Glu Thr His Glu Ala Lys Pro Leu Lys Leu Tyr Val Tyr
35 40 45

15 Asn Thr Asp Thr Asp Asn Cys Arg Glu Val Ile Ile Thr Pro Asn Ser
50 55 60

Ala Trp Gly Gly Glu Gly Ser Leu Gly Cys Gly Ile Gly Tyr Gly Tyr
 65 70 75 80

20 Leu His Arg Ile Pro Thr Arg Pro Phe Glu Glu Gly Lys Lys Ile Ser
 85 90 95

25 Leu Pro Gly Gln Met Ala Gly Thr Pro Ile Thr Pro Leu Lys Asp Gly
100 105 110

Phe Thr Glu Val Gln Leu Ser Ser Val Asn Pro Pro Ser Leu Ser Pro
115 120 125

30 Pro Gly Thr Thr Gly Ile Glu Gln Ser Leu Thr Gly Leu Ser Ile Ser
130 135 140

Ser
145

(2) INFORMATION FOR SEQ ID NO: 516:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 151 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 516:

45 Arg Ile Pro Thr Arg Pro Phe Glu Glu Gly Lys Lys Ile Ser Leu Pro
1 5 10 15

50 Gly Gln Met Ala Gly Thr Pro Ile Thr Pro Leu Lys Asp Gly Phe Thr
20 25 30

Glu Val Gln Leu Ser Ser Val Asn Pro Pro Ser Leu Ser Pro Pro Gly
35 40 45

55 Thr Thr Gly Ile Glu Gln Ser Leu Thr Gly Leu Ser Ile Ser Ser Thr
50 55 60

Pro Pro Ala Val Ser Ser Val Leu Ser Thr Gly Val Pro Thr Val Pro
65 70 75 80

60

| | | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | Leu | Leu | Pro | Pro | Gln | Val | Asn | Gln | Ser | Leu | Thr | Ser | Val | Pro | Pro | Met |
| | | | | | 85 | | | | | 90 | | | | | 95 | |
| 5 | Asn | Pro | Ala | Thr | Thr | Leu | Pro | Gly | Leu | Met | Pro | Leu | Pro | Ala | Gly | Leu |
| | | | | | 100 | | | | 105 | | | 110 | | | | |
| 10 | Pro | Asn | Leu | Pro | Asn | Leu | Asn | Leu | Pro | Ala | Pro | Mis | Ile | Met | | |
| | | | | | 115 | | | 120 | | | 125 | | | | | |
| 15 | Pro | Gly | Val | Gly | Leu | Pro | Glu | Leu | Val | Asn | Pro | Gly | Leu | Pro | Pro | Leu |
| | | | | | 130 | | | 135 | | | 140 | | | | | |
| | Pro | Ser | Met | Pro | Pro | Arg | Asn | | | | | | | | | |
| | | 145 | | | 150 | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO: 517:

| | | | | | | | | | | | | | | | | |
|----|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 20 | (i) SEQUENCE CHARACTERISTICS: | | | | | | | | | | | | | | | |
| | (A) LENGTH: 109 amino acids | | | | | | | | | | | | | | | |
| | (B) TYPE: amino acid | | | | | | | | | | | | | | | |
| | (D) TOPOLOGY: linear | | | | | | | | | | | | | | | |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 517: | | | | | | | | | | | | | | | |
| 25 | Pro | Gly | Leu | Pro | Pro | Leu | Pro | Ser | Met | Pro | Pro | Arg | Asn | Leu | Pro | Gly |
| | 1 | | | 5 | | | | 10 | | | | 15 | | | | |
| 30 | Ile | Ala | Pro | Leu | Pro | Leu | Pro | Ser | Glu | Phe | Leu | Pro | Ser | Phe | Pro | Leu |
| | | | | 20 | | | | 25 | | | 30 | | | | | |
| 35 | Val | Pro | Glu | Ser | Ser | Ala | Ala | Ser | Ser | Gly | Glu | Leu | Leu | Ser | Ser | |
| | | | | 35 | | | | 40 | | | 45 | | | | | |
| 40 | Leu | Pro | Pro | Thr | Ser | Asn | Ala | Pro | Ser | Asp | Pro | Ala | Thr | Thr | Ala | |
| | | | | 50 | | | 55 | | | 60 | | | | | | |
| | Lys | Ala | Asp | Ala | Ala | Ser | Ser | Leu | Thr | Val | Asp | Val | Thr | Pro | Pro | Thr |
| | | | | 65 | | | 70 | | | 75 | | | 80 | | | |
| 45 | Val | Ser | Glu | Lys | Pro | Val | Ser | Ala | Ala | Val | Asp | Ala | Asn | | | |
| | | | | 100 | | | 105 | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO: 518:

| | | | | | | | | | | | | | | | | |
|----|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 50 | (i) SEQUENCE CHARACTERISTICS: | | | | | | | | | | | | | | | |
| | (A) LENGTH: 93 amino acids | | | | | | | | | | | | | | | |
| | (B) TYPE: amino acid | | | | | | | | | | | | | | | |
| | (D) TOPOLOGY: linear | | | | | | | | | | | | | | | |
| 55 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 518: | | | | | | | | | | | | | | | |
| | Ile | Tyr | Lys | Val | Phe | Arg | His | Thr | Ala | Gly | Leu | Lys | Pro | Glu | Val | Ser |
| | 1 | | | | 5 | | | | 10 | | | 15 | | | | |
| 60 | Cys | Phe | Glu | Asn | Ile | Arg | Ser | Cys | Ala | Arg | Xaa | Xaa | Xaa | Xaa | Xaa | |

| | | | | |
|----|---|----|----|----|
| | 20 | 25 | 30 | |
| | Xaa Xaa Xaa Xaa Xaa Xaa Trp Ile Phe Gly Val Leu His Val Val His | | | |
| | 35 | 40 | 45 | |
| 5 | Ala Ser Val Val Thr Ala Tyr Leu Phe Thr Val Ser Asn Ala Phe Gln | | | |
| | 50 | 55 | 60 | |
| | Gly Met Phe Ile Phe Leu Phe Leu Cys Val Leu Ser Arg Lys Ile Gln | | | |
| 10 | 65 | 70 | 75 | 80 |
| | Glu Glu Tyr Tyr Arg Leu Phe Lys Asn Val Pro Cys Cys | | | |
| | 85 | 90 | | |

15

(2) INFORMATION FOR SEQ ID NO: 519:

| | | | | |
|----|---|----|----|----|
| | (i) SEQUENCE CHARACTERISTICS: | | | |
| 20 | (A) LENGTH: 55 amino acids | | | |
| | (B) TYPE: amino acid | | | |
| | (D) TOPOLOGY: linear | | | |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 519: | | | |
| 25 | Trp Ile Phe Gly Val Leu His Val Val His Ala Ser Val Val Thr Ala | | | |
| | 1 | 5 | 10 | 15 |
| | Tyr Leu Phe Thr Val Ser Asn Ala Phe Gln Gly Met Phe Ile Phe Leu | | | |
| | 20 | 25 | 30 | |
| 30 | Phe Leu Cys Val Leu Ser Arg Lys Ile Gln Glu Glu Tyr Tyr Arg Leu | | | |
| | 35 | 40 | 45 | |
| | Phe Lys Asn Val Pro Cys Cys | | | |
| 35 | 50 | 55 | | |

40

(2) INFORMATION FOR SEQ ID NO: 520:

| | | | | |
|----|---|----|----|----|
| | (i) SEQUENCE CHARACTERISTICS: | | | |
| 40 | (A) LENGTH: 50 amino acids | | | |
| | (B) TYPE: amino acid | | | |
| | (D) TOPOLOGY: linear | | | |
| 45 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 520: | | | |
| | Ala Leu Thr Arg Ile Pro Pro Gly Asp Trp Val Ile Asn Val Thr Ala | | | |
| | 1 | 5 | 10 | 15 |
| 50 | Val Ser Phe Ala Gly Lys Thr Thr Ala Arg Phe Phe Xaa His Ser Ser | | | |
| | 20 | 25 | 30 | |
| | Pro Pro Ser Leu Gly Asp Gln Ala Arg Thr Asp Pro Gly His Gln Arg | | | |
| | 35 | 40 | 45 | |
| 55 | Arg Asp | | | |
| | 50 | | | |

60

(2) INFORMATION FOR SEQ ID NO: 521:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 521:

| | | | | |
|---|----|---|----|----|
| Leu Gln Glu Val Asn Ile Thr Leu Pro Glu Asn Ser Val Trp Tyr Glu | | | | |
| 10 | 1 | 5 | 10 | 15 |
| Arg Tyr Lys Phe Asp Ile Pro Val Phe His Leu | | | | |
| | 20 | | 25 | |

15

(2) INFORMATION FOR SEQ ID NO: 522:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 110 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 522:

| | | | | |
|---|---|-----|-----|----|
| Met Gln Gly Ser Gly Ser Gln Phe Arg Ala Cys Leu Leu Cys Leu Cys | | | | |
| 25 | 1 | 5 | 10 | 15 |
| Phe Ser Cys Pro Cys Ser Pro Gly Gly Pro Arg Trp Asn Ser Arg Gln | | | | |
| | 20 | | 25 | 30 |
| Gly Gly Arg Arg Phe Pro Lys Thr Cys Arg Ala Ile Ser Gln Asn Leu | | | | |
| 30 | 35 | | 40 | 45 |
| Val Phe Lys Tyr Lys Thr Phe Cys Pro Val Arg Tyr Met Gln Pro His | | | | |
| 35 | 50 | 55 | 60 | |
| Arg Ser Ser Leu Cys Leu His Phe Thr Ser Tyr Val Phe Ile Leu Ser | | | | |
| | 65 | 70 | 75 | 80 |
| 40 | Thr Trp Gly Ser Leu Arg Thr Tyr Ser Thr Asp Leu Lys Lys Lys | | | |
| | 85 | 90 | 95 | |
| Lys Asn Ser Arg Gly Gly Pro Val Pro Ile Arg Pro Lys Ser | | | | |
| | 100 | 105 | 110 | |

45

(2) INFORMATION FOR SEQ ID NO: 523:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 99 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 523:

| | | |
|---|---|----|
| TAGCATGTAG CCAGTCGAAT AACNTATAAG GACAAAGTGG AGTCCACGCG TGCAGCCGTC | 60 | |
| 60 | TAGACTAGTG GATCCCCGG CTGCAGGATT CGGCACGAG | 99 |

5 (2) INFORMATION FOR SEQ ID NO: 524:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 51 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 524:

Met Gln Gly Ser Gly Ser Gln Phe Arg Ala Cys Leu Leu Cys Leu Cys
1 5 10 15

15 Phe Ser Cys Pro Cys Ser Pro Gly Gly Pro Arg Trp Asn Ser Arg Gln
20 25 30

Gly Gly Arg Arg Phe Pro Lys Thr Cys Arg Ala Ile Ser Gln Asn Leu
20 35 40 45

Val Phe Lys
50

25

(2) INFORMATION FOR SEQ ID NO: 525:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 54 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 525:

30 Pro Val Arg Tyr Met Gln Pro His Arg Ser Ser Leu Cys Leu His Phe
1 5 10 15

35 Thr Ser Tyr Val Phe Ile Leu Ser Thr Trp Gly Ser Leu Arg Thr Tyr
20 25 30

40 Ser Thr Asp Leu Lys Lys Lys Lys Asn Ser Arg Gly Gly Pro Val
35 40 45

45 Pro Ile Arg Pro Lys Ser
50

50 (2) INFORMATION FOR SEQ ID NO: 526:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 38 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 526:

55 Gly Glu Glu Gln Arg Asp Cys Ser Leu Gly Trp Arg Gly Val Gly Met
1 5 10 15

60 Arg Ala Thr His Cys Gln Ala Ala Arg Met Phe Val Leu Phe Ser Leu

632

20

25

30

Pro Lys Tyr Ala Gly Leu
 35

5

(2) INFORMATION FOR SEQ ID NO: 527:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 161 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 527:
 15 Met Pro Arg Lys Thr Ser Lys Cys Arg Gln Leu Leu Cys Ser Gly Ala
 1 5 10 15
 Ser Arg Asn Ala Asp Thr Ala Ala Arg Gln Ser Thr Cys Ser Ser His
 20 20 25 30
 Arg Pro Pro Gly Lys Ile Pro Ser Leu Gly Pro Arg Arg Xaa Pro Gly
 35 40 45
 25 Cys Xaa Ser Val Pro Ser Ser Arg Gly Glu Gln Ser Thr Gly Ser Pro
 50 55 60
 Ala Ala Pro Arg Cys Gly Arg Arg Asp Ala His Arg Gly Leu Pro Gly
 65 70 75 80
 30 Gly Ala Ala Met Thr Pro Gly Asp Thr Trp Ala Ser Phe Asn Pro Arg
 85 90 95
 Ala Gly His Ser Lys Ser Gln Gly Glu Gln Glu Ser Ser Gly Ala
 35 100 105 110
 Ser Arg Gln Asp Arg His Pro Val Ser His Trp Val Glu Arg Gln Arg
 115 120 125
 40 Glu Ala Trp Gly Ala Pro Arg Ser Ser Ala Gly Gly Val Lys Val
 130 135 140
 Ala Ala Thr Thr Glu Arg Glu Pro Glu Phe Lys Ile Lys Thr Gly Lys
 145 150 155 160
 45 Ala

50

(2) INFORMATION FOR SEQ ID NO: 528:

55 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 88 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 528:
 60 Cys Ser Gly Ala Ser Arg Asn Ala Asp Thr Ala Ala Arg Gln Ser Thr
 60 1 5 10 15

Cys Ser Ser His Arg Pro Pro Gly Lys Ile Pro Ser Leu Gly Pro Arg
 20 25 30

5 Arg Xaa Pro Gly Cys Xaa Ser Val Pro Ser Ser Arg Gly Glu Gln Ser
 35 40 45

Thr Gly Ser Pro Ala Ala Pro Arg Cys Gly Arg Arg Asp Ala His Arg
 50 55 60

10 Gly Leu Pro Gly Gly Ala Ala Met Thr Pro Gly Asp Thr Trp Ala Ser
 65 70 75 80

Phe Asn Pro Arg Ala Gly His Ser
 15 85

20 (2) INFORMATION FOR SEQ ID NO: 529:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 59 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 529:

Gln Gly Glu Gly Gln Glu Ser Ser Gly Ala Ser Arg Gln Asp Arg His
 1 5 10 15

30 Pro Val Ser His Trp Val Glu Arg Gln Arg Glu Ala Trp Gly Ala Pro
 20 25 30

Arg Ser Ser Ser Ala Gly Gly Val Lys Val Ala Ala Thr Thr Glu Arg
 35 40 45

35 Glu Pro Glu Phe Lys Ile Lys Thr Gly Lys Ala
 50 55

40 (2) INFORMATION FOR SEQ ID NO: 530:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 235 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 530:

Met Ser Pro Arg Tyr Pro Gly Gly Pro Arg Pro Pro Leu Arg Ile Pro
 50 1 5 10 15

Asn Gln Ala Leu Gly Gly Val Pro Gly Ser Gln Pro Leu Leu Pro Ser
 20 25 30

55 Gly Met Asp Pro Thr Arg Gln Gln Gly His Pro Asn Met Gly Gly Pro
 35 40 45

Met Gln Arg Met Thr Pro Pro Arg Gly Met Val Pro Leu Gly Pro Gln.
 50 55 60

60

634

Asn Tyr Gly Gly Ala Met Arg Pro Pro Leu Asn Ala Leu Gly Gly Pro
 65 70 75 80
 Gly Met Pro Gly Met Asn Met Gly Pro Gly Gly Arg Pro Trp Pro
 5 85 90 95
 Asn Pro Thr Asn Ala Asn Ser Ile Pro Tyr Ser Ser Ala Ser Pro Gly
 100 105 110
 10 Asn Tyr Val Gly Pro Pro Gly Gly Pro Pro Gly Thr Pro Ile
 115 120 125
 Met Pro Ser Pro Ala Asp Ser Thr Asn Ser Gly Asp Asn Met Tyr Thr
 130 135 140
 15 Leu Met Asn Ala Val Pro Pro Gly Pro Asn Arg Pro Asn Phe Pro Met
 145 150 155 160
 Gly Pro Gly Ser Asp Gly Pro Met Gly Gly Leu Gly Gly Met Glu Ser
 20 165 170 175
 His His Met Asn Gly Ser Leu Gly Ser Gly Asp Met Asp Ser Ile Ser
 180 185 190
 25 Lys Asn Ser Pro Asn Asn Met Ser Leu Ser Asn Gln Pro Gly Thr Pro
 195 200 205
 Arg Asp Asp Gly Glu Met Gly Gly Asn Phe Leu Asn Pro Phe Gln Ser
 210 215 220
 30 Glu Ser Tyr Ser Pro Ser Met Thr Met Ser Val
 225 230 235
 35
 (2) INFORMATION FOR SEQ ID NO: 531:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 114 amino acids
 40 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 531:
 Met Ser Pro Arg Tyr Pro Gly Gly Pro Arg Pro Pro Leu Arg Ile Pro
 45 1 5 10 15
 Asn Gln Ala Leu Gly Gly Val Pro Gly Ser Gln Pro Leu Leu Pro Ser
 50 20 25 30
 Gly Met Asp Pro Thr Arg Gln Gln Gly His Pro Asn Met Gly Pro
 55 35 40 45
 Met Gln Arg Met Thr Pro Pro Arg Gly Met Val Pro Leu Gly Pro Gln
 60 50 55 60
 Asn Tyr Gly Gly Ala Met Arg Pro Pro Leu Asn Ala Leu Gly Gly Pro
 65 70 75 80
 Gly Met Pro Gly Met Asn Met Gly Pro Gly Gly Arg Pro Trp Pro
 60 85 90 95

Asn Pro Thr Asn Ala Asn Ser Ile Pro Tyr Ser Ser Ala Ser Pro Gly
100 105 110

5 Asn Tyr

10 (2) INFORMATION FOR SEQ ID NO: 532:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 81 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 532:

Leu Asn Ala Leu Gly Gly Pro Gly Met Pro Gly Met Asn Met Gly Pro
1 5 10 15

Gly Gly Gly Arg Pro Trp Pro Asn Pro Thr Asn Ala Asn Ser Ile Pro
20 25 30

Tyr Ser Ser Ala Ser Pro Gly Asn Tyr Val Gly Pro Pro Gly Gly Gly
25 35 40 45

Gly Pro Pro Gly Thr Pro Ile Met Pro Ser Pro Ala Asp Ser Thr Asn
50 55 60

Ser Gly Asp Asn Met Tyr Thr Leu Met Asn Ala Val Pro Pro Gly Pro
65 70 75 80

Asn

35

(2) INFORMATION FOR SEQ ID NO: 533:

40 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 70 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 533:

Gly Pro Met Gly Gly Leu Gly Gly Met Glu Ser His His Met Asn Gly
1 5 10 15

Ser Leu Gly Ser Gly Asp Met Asp Ser Ile Ser Lys Asn Ser Pro Asn
20 25 30

Asn Met Ser Leu Ser Asn Gln Pro Gly Thr Pro Arg Asp Asp Gly Glu
35 40 45

Met Gly Gly Asn Phe Leu Asn Pro Phe Gln Ser Glu Ser Tyr Ser Pro
50 55 60

Ser Met Thr Met Ser Val
65 70

(2) INFORMATION FOR SEQ ID NO: 534:

- 5 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 14 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 534:

Thr Cys Glu His Ser Ser Glu Ala Lys Ala Phe His Asp Tyr
1 5 10

15 (2) INFORMATION FOR SEQ ID NO: 535:

- 20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 59 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 535:

Gln Ala Phe Val Leu Leu Ser Asp Leu Leu Leu Ile Phe Ser Pro Gln
25 1 5 10 15
Met Ile Val Gly Gly Arg Asp Phe Leu Arg Pro Leu Val Phe Phe Pro
30 20 25 30
Glu Ala Thr Leu Gln Ser Glu Leu Ala Ser Phe Leu Met Asp His Val
35 35 40 45
Phe Ile Gln Pro Gly Asp Leu Gly Ser Gly Ala
40 50 55

35

(2) INFORMATION FOR SEQ ID NO: 536:

- 40 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 43 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 536:

Ala Cys Ser Tyr Leu Leu Cys Asn Pro Glu Phe Thr Phe Ser Arg
45 1 5 10 15
Ala Asp Phe Ala Arg Ser Gln Leu Val Asp Leu Leu Thr Asp Arg Phe
50 20 25 30
Gln Gln Glu Leu Glu Glu Leu Gln Val Gly
55 35 40

55

(2) INFORMATION FOR SEQ ID NO: 537:

- 60 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 35 amino acids

(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 537:

5 Gln Lys Gln Leu Ser Ser Leu Arg Asp Arg Met Val Ala Phe Cys Glu
1 5 10 15
Leu Cys Gln Ser Cys Leu Ser Asp Val Asp Thr Glu Ile Gln Glu Gln
20 25 30
10 Val Ser Thr
35

15
(2) INFORMATION FOR SEQ ID NO: 538:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 27 amino acids
20 (B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 538:

Gln Val Ile Leu Pro Ala Leu Thr Leu Val Tyr Phe Ser Ile Leu Trp
25 1 5 10 15
Thr Leu Thr His Ile Ser Lys Ser Asp Ala Ser
20 25

30
(2) INFORMATION FOR SEQ ID NO: 539:

(i) SEQUENCE CHARACTERISTICS:
35 (A) LENGTH: 31 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 539:

40 Ser Thr His Asp Leu Thr Arg Trp Glu Leu Tyr Glu Pro Cys Cys Gln
1 5 10 15
Leu Leu Gln Lys Ala Val Asp Thr Gly Xaa Val Pro His Gln Val
20 25 30
45

(2) INFORMATION FOR SEQ ID NO: 540:

50 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 106 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 540:

55 Leu Ala Val Ser Thr Ser Phe Ile Cys Cys Ala Asp Ile Ser Thr Ala
1 5 10 15
Leu Pro Leu Gly Ser Ser Arg Pro Ala Pro Ala Pro Arg His Arg Glu
60 20 25 30

His Glu His Gly His Gln Ala Arg Pro Pro Arg Leu Leu Xaa Thr Ser
 35 40 45

5 Leu Met Pro Leu Ser Thr Pro Ala Ala Gln Leu Leu Trp Thr Gln
 50 55 60

Leu Thr Pro Met Gly Gly Arg Pro Gly Gly Arg His Ser Pro Pro Thr
 65 70 75 80

10 Leu His Thr Gly Pro Arg Ala Leu Pro Pro Gly Pro Pro His Pro Ser
 85 90 95

Leu His Val Ala Ala Leu Ser Leu Leu Arg
 15 100 105

(2) INFORMATION FOR SEQ ID NO: 541:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 207 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 541:

Glu Gln Val Leu Ala Leu Leu Trp Pro Arg Phe Glu Leu Ile Leu Glu
 1 5 10 15

30 Met Asn Val Gln Ser Val Arg Ser Thr Asp Pro Gln Arg Leu Gly Gly
 20 25 30

Leu Asp Thr Arg Pro His Tyr Ile Thr Arg Arg Tyr Ala Glu Phe Ser
 35 40 45

35 Ser Ala Leu Val Ser Ile Asn Gln Thr Ile Pro Asn Glu Arg Thr Met
 50 55 60

40 Gln Leu Leu Gly Gln Leu Gln Val Glu Val Glu Asn Phe Val Leu Arg
 65 70 75 80

Val Ala Ala Glu Phe Ser Ser Arg Lys Glu Gln Leu Val Phe Leu Ile
 85 90 95

45 Asn Asn Tyr Asp Met Met Leu Gly Val Leu Met Glu Arg Ala Ala Asp
 100 105 110

Asp Ser Lys Glu Val Glu Ser Phe Gln Gln Leu Leu Asn Ala Arg Thr
 115 120 125

50 Gln Glu Phe Ile Glu Glu Leu Leu Ser Pro Pro Phe Gly Gly Leu Val
 130 135 140

Ala Phe Val Lys Glu Ala Glu Ala Leu Ile Glu Arg Gly Gln Ala Glu
 55 145 150 155 160

Arg Leu Arg Gly Glu Glu Ala Arg Val Thr Gln Leu Ile Arg Gly Phe
 165 170 175

60 Gly Ser Ser Trp Lys Ser Ser Val Glu Ser Leu Ser Gln Asp Val Met

180 185 190

185

190

Arg Ser Phe Thr Asn Phe Arg Asn Gly Thr Ser Ile Ile Gln Gly
195 200 205

5

(2) INFORMATION FOR SEQ ID NO: 542:

10 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 110 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 542:

15 Ala Leu Leu Lys Tyr Arg Phe Phe Tyr Gln Phe Leu Leu Gly Asn Glu
 1 5 10 15

Arg Ala Thr Ala Lys Glu Ile Arg Asp Glu Tyr Val Glu Thr Leu Ser
20 20 25 30

Lys Ile Tyr Leu Ser Tyr Tyr Arg Ser Tyr Leu Gly Arg Leu Met Lys
35 40 45

25 Val Gln Tyr Glu Glu Val Ala Glu Lys Asp Asp Leu Met Gly Val Glu
50 55 60

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Thr | Ala | Lys | Lys | Gly | Phe | Xaa | Ser | Lys | Pro | Ser | Leu | Arg | Ser | Arg |
| 65 | | | | | | 70 | | | | 75 | | | | | 80 |

30 Asn Thr Ile Phe Thr Leu Gly Thr Arg Gly Ser Val Ile Ser Pro Thr
85 90 . 95

35 Glu Leu Glu Ala Pro Ile Leu Val Pro His Thr Ala Gln Arg
 100 105 110

(2) INFORMATION FOR SEQ ID NO: 543:

40

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 97 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 543:

Glu Gln Arg Tyr Pro Phe Glu Ala Leu Phe Arg Ser Gln His Tyr Xaa
 1 5 10 15

50 Leu Leu Asp Asn Ser Cys Arg Glu Tyr Leu Phe Ile Cys Glu Phe Phe
20 25 30

Val Val Ser Gly Pro Xaa Ala His Asp Leu Phe His Ala Val Met Gly
35 40 45

55 Arg Thr Leu Ser Met Thr Leu Lys His Leu Asp Ser Tyr Leu Ala Asp
50 55 60

60 Cys Tyr Asp Ala Ile Ala Val Phe Leu Cys Ile His Ile Val Leu Arg
65 70 75 80

640

Phe Arg Asn Ile Ala Ala Lys Arg Asp Val Pro Ala Leu Asp Arg Tyr
85 90 95

5 Trp

10 (2) INFORMATION FOR SEQ ID NO: 544:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 26 amino acids
(B) TYPE: amino acid
15 (D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 544:

Gly Gly Leu Asp Thr Arg Pro His Tyr Ile Thr Arg Arg Tyr Ala Glu
1 5 10 15

20 Phe Ser Ser Ala Leu Val Ser Ile Asn Gln
20 25

25

(2) INFORMATION FOR SEQ ID NO: 545:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
30 (B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 545:

Ser Arg Lys Glu Gln Leu Val Phe Leu Ile Asn Asn Tyr Asp Met Met
35 1 5 10 15

Leu Gly Val Leu
20

40

(2) INFORMATION FOR SEQ ID NO: 546:

- (i) SEQUENCE CHARACTERISTICS:
45 (A) LENGTH: 411 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 546:

50 Ala Leu Leu Lys Tyr Arg Phe Phe Tyr Gln Phe Leu Leu Gly Asn Glu
1 5 10 15

Arg Ala Thr Ala Lys Glu Ile Arg Asp Glu Tyr Val Glu Thr Leu Ser
20 25 30

55 Lys Ile Tyr Leu Ser Tyr Tyr Arg Ser Tyr Leu Gly Arg Leu Met Lys
35 40 45

60 Val Gln Tyr Glu Glu Val Ala Glu Lys Asp Asp Leu Met Gly Val Glu
50 55 60

641

Asp Thr Ala Lys Lys Gly Phe Xaa Ser Lys Pro Ser Leu Arg Ser Arg
 65 70 75 80

5 Asn Thr Ile Phe Thr Leu Gly Thr Arg Gly Ser Val Ile Ser Pro Thr
 85 90 95

Glu Leu Glu Ala Pro Ile Leu Val Pro His Thr Ala Gln Arg Xaa Glu
 100 105 110

10 Gln Arg Tyr Pro Phe Glu Ala Leu Phe Arg Ser Gln His Tyr Xaa Leu
 115 120 125

Leu Asp Asn Ser Cys Arg Glu Tyr Leu Phe Ile Cys Glu Phe Phe Val
 15 130 135 140

Val Ser Gly Pro Xaa Ala His Asp Leu Phe His Ala Val Met Gly Arg
 145 150 155 160

20 Thr Leu Ser Met Thr Leu Lys His Leu Asp Ser Tyr Leu Ala Asp Cys
 165 170 175

Tyr Asp Ala Ile Ala Val Phe Leu Cys Ile His Ile Val Leu Arg Phe
 180 185 190

25 Arg Asn Ile Ala Ala Lys Arg Asp Val Pro Ala Leu Asp Arg Tyr Trp
 195 200 205

Glu Gln Val Leu Ala Leu Leu Trp Pro Arg Phe Glu Leu Ile Leu Glu
 30 210 215 220

Met Asn Val Gln Ser Val Arg Ser Thr Asp Pro Gln Arg Leu Gly Gly
 225 230 235 240

35 Leu Asp Thr Arg Pro His Tyr Ile Thr Arg Arg Tyr Ala Glu Phe Ser
 245 250 255

Ser Ala Leu Val Ser Ile Asn Gln Thr Ile Pro Asn Glu Arg Thr Met
 40 260 265 270

Gln Leu Leu Gly Gln Leu Gln Val Glu Val Glu Asn Phe Val Leu Arg
 275 280 285

Val Ala Ala Glu Phe Ser Ser Arg Lys Glu Gln Leu Val Phe Leu Ile
 45 290 295 300

Asn Asn Tyr Asp Met Met Leu Gly Val Leu Met Glu Arg Ala Ala Asp
 305 310 315 320

50 Asp Ser Lys Glu Val Glu Ser Phe Gln Gln Leu Leu Asn Ala Arg Thr
 325 330 335

Gln Glu Phe Ile Glu Glu Leu Leu Ser Pro Pro Phe Gly Gly Leu Val
 340 345 350

55 Ala Phe Val Lys Glu Ala Glu Ala Leu Ile Glu Arg Gly Gln Ala Glu
 355 360 365

Arg Leu Arg Gly Glu Glu Ala Arg Val Thr Gln Leu Ile Arg Gly Phe
 60 370 375 380

Gly Ser Ser Trp Lys Ser Ser Val Glu Ser Leu Ser Gln Asp Val Met
 385 390 395 400

5 Arg Ser Phe Thr Asn Phe Arg Asn Gly Thr Ser
 405 410

10 (2) INFORMATION FOR SEQ ID NO: 547:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 303 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 547:

Tyr Glu Gly Lys Glu Phe Asp Tyr Val Phe Ser Ile Asp Val Asn Glu
 1 5 10 15

Gly Gly Pro Ser Tyr Lys Leu Pro Tyr Asn Thr Ser Asp Asp Pro Trp
 20 25 30

Leu Thr Ala Tyr Asn Phe Leu Gln Lys Asn Asp Leu Asn Pro Met Phe
 25 35 40 45

Leu Asp Gln Val Ala Lys Phe Ile Ile Asp Asn Thr Lys Gly Gln Met
 50 55 60

Leu Gly Leu Gly Asn Pro Ser Phe Ser Asp Pro Phe Thr Gly Gly Gly
 30 65 70 75 80

Arg Tyr Val Pro Gly Ser Ser Gly Ser Asn Thr Leu Pro Thr Ala
 85 90 95

Asp Pro Phe Thr Gly Ala Gly Arg Tyr Val Pro Gly Ser Ala Ser Met
 35 100 105 110

Gly Thr Thr Met Ala Gly Val Asp Pro Phe Thr Gly Asn Ser Ala Tyr
 40 115 120 125

Arg Ser Ala Ala Ser Lys Thr Met Asn Ile Tyr Phe Pro Lys Lys Glu
 130 135 140

Ala Val Thr Phe Asp Gln Ala Asn Pro Thr Gln Ile Leu Gly Lys Leu
 45 145 150 155 160

Lys Glu Leu Asn Gly Thr Ala Pro Glu Glu Lys Lys Leu Thr Glu Asp
 165 170 175

Asp Leu Ile Leu Leu Glu Lys Ile Leu Ser Leu Ile Cys Asn Ser Ser
 50 180 185 190

Ser Glu Lys Pro Thr Val Gln Gln Leu Gln Ile Leu Trp Lys Ala Ile
 55 195 200 205

Asn Cys Pro Glu Asp Ile Val Phe Pro Ala Leu Asp Ile Leu Arg Leu
 210 215 220

60 Ser Ile Lys His Pro Ser Val Asn Glu Asn Phe Cys Asn Glu Lys Glu

643

225 230 235 240
Gly Ala Gln Phe Ser Ser His Leu Ile Asn Leu Leu Asn Pro Lys Gly
245 250 255
5 Lys Pro Ala Asn Gln Leu Leu Ala Leu Arg Thr Phe Cys Asn Cys Phe
260 265 270
Val Gly Gln Ala Gly Gln Lys Leu Met Met Ser Gln Arg Glu Ser Leu
10 275 280 285
Met Ser His Ala Ile Glu Leu Lys Ser Gly Ser Asn Lys Asn Ile
290 295 300
15
(2) INFORMATION FOR SEQ ID NO: 548:
20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 18 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 548:
25 His Ile Ala Leu Ala Thr Leu Ala Leu Asn Tyr Ser Val Cys Phe His
1 5 10 15
Lys Asp
30
(2) INFORMATION FOR SEQ ID NO: 549:
35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 49 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 549:
40 His Asn Ile Glu Gly Lys Ala Gln Cys Leu Ser Leu Ile Ser Thr Ile
1 5 10 15
Leu Glu Val Val Gln Asp Leu Glu Ala Thr Phe Arg Leu Leu Val Ala
45 20 25 30
Leu Gly Thr Leu Ile Ser Asp Asp Ser Asn Ala Val Gln Leu Ala Lys
35 40 45
50 Ser

55 (2) INFORMATION FOR SEQ ID NO: 550:
60 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 30 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 550:

Leu Gly Val Asp Ser Gln Ile Lys Lys Tyr Ser Ser Val Ser Glu Pro
 1 5 10 15
 5 Ala Lys Val Ser Glu Cys Cys Arg Phe Ile Leu Asn Leu Leu
 20 25 30

10

(2) INFORMATION FOR SEQ ID NO: 551:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 400 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 551:

Tyr Glu Gly Lys Glu Phe Asp Tyr Val Phe Ser Ile Asp Val Asn Glu
 20 1 5 10 15

Gly Gly Pro Ser Tyr Lys Leu Pro Tyr Asn Thr Ser Asp Asp Pro Trp
 20 25 30

25 Leu Thr Ala Tyr Asn Phe Leu Gln Lys Asn Asp Leu Asn Pro Met Phe
 35 40 45

Leu Asp Gln Val Ala Lys Phe Ile Ile Asp Asn Thr Lys Gly Gln Met
 50 55 60

30 Leu Gly Leu Gly Asn Pro Ser Phe Ser Asp Pro Phe Thr Gly Gly Gly
 65 70 75 80

Arg Tyr Val Pro Gly Ser Ser Gly Ser Asn Thr Leu Pro Thr Ala
 85 90 95

Asp Pro Phe Thr Gly Ala Gly Arg Tyr Val Pro Gly Ser Ala Ser Met
 100 105 110

40 Gly Thr Thr Met Ala Gly Val Asp Pro Phe Thr Gly Asn Ser Ala Tyr
 115 120 125

Arg Ser Ala Ala Ser Lys Thr Met Asn Ile Tyr Phe Pro Lys Lys Glu
 130 135 140

45 Ala Val Thr Phe Asp Gln Ala Asn Pro Thr Gln Ile Leu Gly Lys Leu
 145 150 155 160

Lys Glu Leu Asn Gly Thr Ala Pro Glu Glu Lys Lys Leu Thr Glu Asp
 50 165 170 175

Asp Leu Ile Leu Leu Glu Lys Ile Leu Ser Leu Ile Cys Asn Ser Ser
 180 185 190

55 Ser Glu Lys Pro Thr Val Gln Gln Leu Gln Ile Leu Trp Lys Ala Ile
 195 200 205

Asn Cys Pro Glu Asp Ile Val Phe Pro Ala Leu Asp Ile Leu Arg Leu
 210 215 220

60

645

| | | | |
|-----|---|-----|-----|
| | Ser Ile Lys His Pro Ser Val Asn Glu Asn Phe Cys Asn Glu Lys Glu | | |
| 225 | 230 | 235 | 240 |
| | Gly Ala Gln Phe Ser Ser His Leu Ile Asn Leu Leu Asn Pro Lys Gly | | |
| 5 | 245 | 250 | 255 |
| | Lys Pro Ala Asn Gln Leu Leu Ala Leu Arg Thr Phe Cys Asn Cys Phe | | |
| | 260 | 265 | 270 |
| 10 | Val Gly Gln Ala Gly Gln Lys Leu Met Met Ser Gln Arg Glu Ser Leu | | |
| | 275 | 280 | 285 |
| | Met Ser His Ala Ile Glu Leu Lys Ser Gly Ser Asn Lys Asn Ile His | | |
| | 290 | 295 | 300 |
| 15 | Ile Ala Leu Ala Thr Leu Ala Leu Asn Tyr Ser Val Cys Phe His Lys | | |
| | 305 | 310 | 315 |
| | Asp His Asn Ile Glu Gly Lys Ala Gln Cys Leu Ser Leu Ile Ser Thr | | |
| 20 | 325 | 330 | 335 |
| | Ile Leu Glu Val Val Gln Asp Leu Glu Ala Thr Phe Arg Leu Leu Val | | |
| | 340 | 345 | 350 |
| 25 | Ala Leu Gly Thr Leu Ile Ser Asp Asp Ser Asn Ala Val Gln Leu Ala | | |
| | 355 | 360 | 365 |
| | Lys Ser Leu Gly Val Asp Ser Gln Ile Lys Lys Tyr Ser Ser Val Ser | | |
| | 370 | 375 | 380 |
| 30 | Glu Pro Ala Lys Val Ser Glu Cys Cys Arg Phe Ile Leu Asn Leu Leu | | |
| | 385 | 390 | 395 |
| | 400 | | |

35

(2) INFORMATION FOR SEQ ID NO: 552:

40

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 139 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

45. (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 552:

| | | | |
|----|---|----|----|
| | Tyr Pro Asn Gln Asp Gly Asp Ile Leu Arg Asp Gln Val Leu His Glu | | |
| 1 | 5 | 10 | 15 |
| 50 | His Ile Gln Arg Leu Ser Lys Val Val Thr Ala Asn His Arg Ala Leu | | |
| | 20 | 25 | 30 |
| | Gln Ile Pro Glu Val Tyr Leu Arg Glu Ala Pro Trp Pro Ser Ala Gln | | |
| | 35 | 40 | 45 |
| 55 | Ser Glu Ile Arg Thr Ile Ser Ala Tyr Lys Thr Pro Arg Asp Lys Val | | |
| | 50 | 55 | 60 |
| 60 | Gln Cys Ile Leu Arg Met Cys Ser Thr Ile Met Asn Leu Leu Ser Leu | | |
| | 65 | 70 | 75 |
| | 80 | | |

| | | | |
|----|---|-----|-----|
| | Ala Asn Glu Asp Ser Val Pro Gly Ala Asp Asp Phe Val Pro Val Leu | | |
| | 85 | 90 | 95 |
| 5 | Val Phe Val Leu Ile Lys Ala Asn Pro Pro Cys Leu Leu Ser Thr Val | | |
| | 100 | 105 | 110 |
| | Gln Tyr Ile Ser Ser Phe Tyr Ala Ser Cys Leu Ser Gly Glu Glu Ser | | |
| | 115 | 120 | 125 |
| 10 | Tyr Trp Trp Met Gln Phe Thr Ala Ala Val Glu | | |
| | 130 | 135 | |

15

(2) INFORMATION FOR SEQ ID NO: 553:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 144 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 553:

25 Tyr Pro Asn Gln Asp Gly Asp Ile Leu Arg Asp Gln Val Leu His Glu
 1 5 10 15

His Ile Gln Arg Leu Ser Lys Val Val Thr Ala Asn His Arg Ala Leu
20 25 30

30 Gln Ile Pro Glu Val Tyr Leu Arg Glu Ala Pro Trp Pro Ser Ala Gln
35 40 45

Ser Glu Ile Arg Thr Ile Ser Ala Tyr Lys Thr Pro Arg Asp Lys Val
 50 55 60

35 Gln Cys Ile Leu Arg Met Cys Ser Thr Ile Met Asn Leu Leu Ser Leu
65 70 75 80

40 Ala Asn Glu Asp Ser Val Pro Gly Ala Asp Asp Phe Val Pro Val Leu
85 90 95

Val Phe Val Leu Ile Lys Ala Asn Pro Pro Cys Leu Leu Ser Thr Val
100 105 110

45 Gln Tyr Ile Ser Ser Phe Tyr Ala Ser Cys Leu Ser Gly Glu Glu Ser
115 120 125

130 135 140
50

55 (2) INFORMATION FOR SEQ ID NO: 554:

(i) SEQUENCE CHARACTERISTICS:

(B) TYPE: amino acid

(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 554:

5 Tyr Pro Asn Gln Asp Gly Asp Ile Leu Arg Asp Gln Val Leu
 1 5 10

10 (2) INFORMATION FOR SEQ ID NO: 555:

10 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 11 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 555:

Glu Ala Pro Trp Pro Ser Ala Gln Ser Glu Ile
 1 5 10

20

(2) INFORMATION FOR SEQ ID NO: 556:

25 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 21 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 556:

30 Ser Gly Glu Glu Ser Tyr Trp Trp Met Gln Phe Thr Ala Ala Val Glu
 1 5 10 15

35 Phe Ile Lys Thr Ile
 20

35

(2) INFORMATION FOR SEQ ID NO: 557:

40 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 557:

45 Ala Asp Asp Phe Val Pro Val Leu Val Phe Val Leu Ile Lys Ala Asn
 1 5 10 15

50 Pro Pro

55 (2) INFORMATION FOR SEQ ID NO: 558:

55 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 12 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

60 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 558:

Tyr Lys Thr Pro Arg Asp Lys Val Gln Cys Ile Leu
1 5 10

5

(2) INFORMATION FOR SEQ ID NO: 559:

- 10 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 559:

15 Gly Ala Asp Asp Phe Val Pro Val Leu Val Phe Val Leu Ile Lys
1 5 10 15

20 (2) INFORMATION FOR SEQ ID NO: 560:

- 25 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 12 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 560:

Pro Val Leu Val Phe Val Leu Ile Lys Ala Asn Pro
1 5 10
30

(2) INFORMATION FOR SEQ ID NO: 561:

- 35 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 17 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 561:

40 Ser Ala Arg Ala Ser Thr Gln Pro Pro Ala Gly Gln His Pro Gly Pro
1 5 10 15

45 Cys

50 (2) INFORMATION FOR SEQ ID NO: 562:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 33 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 562:

Met Pro Gly Arg Trp Arg Trp Gln Arg Asp Met His Pro Ala Arg Lys
1 5 10 15
60 Leu Leu Ser Leu Leu Phe Leu Ile Leu Met Gly Thr Glu Leu Thr Gln

20 25 30

Asp

5

(2) INFORMATION FOR SEQ ID NO: 563:

10 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 19 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 563:

15 Ser Ala Ala Pro Asp Ser Leu Leu Arg Ser Ser Lys Gly Ser Thr Arg
1 5 10 15

Gly Ser Leu

20

(2) INFORMATION FOR SEQ ID NO: 564:

25 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 564:

Ala Ala Ile Val Ile Trp Arg Gly Lys Ser Glu Ser Arg Ile Ala Lys
1 5 10 15

35 Thr Pro Gly Ile
20

40 (2) INFORMATION FOR SEQ ID NO: 565:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 17 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 565:

Pro Leu Gly Ile Thr Leu Pro Leu Gly Ala Pro Glu Thr Gly Gly
1 5 10 15

50 Asp

55

(2) INFORMATION FOR SEQ ID NO: 566:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 amino acids
- (B) TYPE: amino acid

60

650

(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 566:

5 Cys Ala Ala Glu Thr Trp Lys Gly Ser Gln Arg Ala Gly Gln Leu Cys
1 5 10 15

Ala Leu Leu Ala
20

10

(2) INFORMATION FOR SEQ ID NO: 567:

15 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 567:

20 Phe Arg Gly Gly Thr Leu Val Leu Pro Pro Thr His Thr Pro Glu
1 5 10 15

Trp Leu Ile Leu
20

25

(2) INFORMATION FOR SEQ ID NO: 568:

30 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 22 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 568:

35 Met Arg Ser Ala Arg Pro Ser Leu Gly Cys Leu Pro Ser Trp Ala Phe
1 5 10 15

Ser Gln Ala Leu Asn Ile
40 20

45

(2) INFORMATION FOR SEQ ID NO: 569:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 22 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 569:

Leu Leu Gly Leu Lys Gly Leu Ala Pro Ala Glu Ile Ser Ala Val Cys
1 5 10 15

55 Glu Lys Gly Asn Phe Asn
20

60 (2) INFORMATION FOR SEQ ID NO: 570:

(1) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 26 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 570:

Val Ala His Gly Leu Ala Trp Ser Tyr Tyr Ile Gly Tyr Leu Arg Leu
1 5 10 15
10 Ile Leu Pro Glu Leu Gln Ala Arg Ile Arg
20 25

15

(2) INFORMATION FOR SEQ ID NO: 571:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 571:

25 Thr Tyr Asn Gln His Tyr Asn Asn Leu Leu Arg Gly Ala Val Ser Gln
1 5 10 15
Arg Cys

30

(2) INFORMATION FOR SEQ ID NO: 572:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 43 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 572:

40 Ile Leu Leu Pro Leu Asp Cys Gly Val Pro Asp Asn Leu Ser Met Ala
1 5 10 15
Asp Pro Asn Ile Arg Phe Leu Asp Lys Leu Pro Gln Gln Thr Gly Asp
20 25 30
45 Arg Ala Gly Ile Lys Asp Arg Val Tyr Ser Asn
35 40

50

(2) INFORMATION FOR SEQ ID NO: 573:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 45 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 573:

60 Ser Ile Tyr Glu Leu Leu Glu Asn Gly Gln Arg Ala Gly Thr Cys Val
1 5 10 15

Leu Glu Tyr Ala Thr Pro Leu Gln Thr Leu Phe Ala Met Ser Gln Tyr
20 25 30

5 Ser Gln Ala Gly Phe Ser Gly Glu Asp Arg Leu Glu Gln
35 40 45

10 (2) INFORMATION FOR SEQ ID NO: 574:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 92 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 574:

Ala Lys Leu Phe Cys Arg Thr Leu Glu Asp Ile Leu Ala Asp Ala Pro
1 5 10 15

20 Glu Ser Gln Asn Asn Cys Arg Leu Ile Ala Tyr Gln Glu Pro Ala Asp
20 25 30

25 Asp Ser Ser Phe Ser Leu Ser Gln Glu Val Leu Arg His Leu Arg Gln
35 40 45

Glu Glu Lys Glu Glu Val Thr Val Gly Ser Leu Lys Thr Ser Ala Val
50 55 60

30 Pro Ser Thr Ser Thr Met Ser Gln Glu Pro Glu Leu Leu Ile Ser Gly
65 70 75 80

Met Glu Lys Pro Leu Pro Leu Arg Thr Asp Phe Ser
85 90

35

(2) INFORMATION FOR SEQ ID NO: 575:

40 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 43 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 575:

45 Leu Leu Gly Leu Lys Gly Leu Ala Pro Ala Glu Ile Ser Ala Val Cys
1 5 10 15

50 Glu Lys Gly Asn Phe Asn Val Ala His Gly Leu Ala Trp Ser Tyr Tyr
20 25 30

Ile Gly Tyr Leu Arg Leu Ile Leu Pro Glu Leu
35 40

55

(2) INFORMATION FOR SEQ ID NO: 576:

60 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 22 amino acids

(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 576:

5 Thr Met Lys Leu Leu Lys Leu Arg Arg Asn Ile Val Lys Leu Ser Leu
 1 5 10 15
 Tyr Arg His Phe Thr Asn
 20
10

(2) INFORMATION FOR SEQ ID NO: 577:

15 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 22 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 577:

20 Thr Leu Ile Leu Ala Val Ala Ala Ser Ile Val Phe Ile Ile Trp Thr
 1 5 10 15
 Thr Met Lys Phe Arg Ile
 20

30 (2) INFORMATION FOR SEQ ID NO: 578:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 28 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 578:

Val Thr Cys Gln Ser Asp Trp Arg Glu Leu Trp Val Asp Asp Ala Ile
1 5 10 15
40 Trp Arg Leu Leu Phe Ser Met Ile Leu Phe Val Ile
 20 25

45 (2) INFORMATION FOR SEQ ID NO: 579:

50 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 27 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 579:

Met Val Leu Trp Arg Pro Ser Ala Asn Asn Gln Arg Phe Ala Phe Ser
1 5 10 15
55 Pro Leu Ser Glu Glu Glu Glu Asp Glu Gln
 20 25

(2) INFORMATION FOR SEQ ID NO: 580:

(i) SEQUENCE CHARACTERISTICS:

- 5 (A) LENGTH: 27 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 580:

10 Met Val Leu Trp Arg Pro Ser Ala Asn Asn Gln Arg Phe Ala Phe Ser
 1 5 10 15

Pro Leu Ser Glu Glu Glu Glu Asp Glu Gln
 20 25

15

(2) INFORMATION FOR SEQ ID NO: 581:

(i) SEQUENCE CHARACTERISTICS:

- 20 (A) LENGTH: 35 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 581:

25 Lys Glu Pro Met Leu Lys Glu Ser Phe Glu Gly Met Lys Met Arg Ser
 1 5 10 15

Thr Lys Gln Glu Pro Asn Gly Asn Ser Lys Val Asn Lys Ala Gln Glu
 20 25 30

30

Asp Asp Leu
 35

35

(2) INFORMATION FOR SEQ ID NO: 582:

(i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 37 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 582:

45 Lys Trp Val Glu Glu Asn Val Pro Ser Ser Val Thr Asp Val Ala Leu
 1 5 10 15

Pro Ala Leu Leu Asp Ser Asp Glu Glu Arg Met Ile Thr His Phe Glu
 20 25 30

50

Arg Ser Lys Met Glu
 35

55 (2) INFORMATION FOR SEQ ID NO: 583:

(i) SEQUENCE CHARACTERISTICS:

- 60 (A) LENGTH: 20 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 533:

Asp Pro Arg Val Arg Leu Asn Ser Leu Thr Cys Lys His Ile Phe Ile
1 5 11 15
5 Ser Leu Thr GLn
20

10

(2) INFORMATION FOR SEQ ID NO: 534:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 13 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 534:

Tyr Glu Pro Met Asp Phe Xaa Met Ala Leu Ile Tyr Asp
20 1 5 11

25

(2) INFORMATION FOR SEQ ID NO: 535:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 16 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 535:

Ile Arg His Glu Leu Thr Val Leu Arg Asp Thr Arg Pro Ala Cys Ala
1 5 11 15

35

40

(2) INFORMATION FOR SEQ ID NO: 536:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 10 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 536:

Met Asp Phe Xaa Met Ala Leu Ile Tyr Asp
1 5 11

50

(2) INFORMATION FOR SEQ ID NO: 537:

55

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 14 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

60 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 537:

Met Gln Glu Met Met Arg Asn Gln Asp Arg Ala Leu Ser Asn Leu Glu
1 5 10 15
Ser Ile Pro Gly Gly Tyr Asn Ala
5 20

10 (2) INFORMATION FOR SEQ ID NO: 588:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 25 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 588:

Leu Arg Arg Met Tyr Thr Asp Ile Gln Glu Pro Met Leu Ser Ala Ala
1 5 10 15
20 Gln Glu Gln Phe Gly Gly Asn Pro Phe
20 25

25 (2) INFORMATION FOR SEQ ID NO: 589:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 32 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 589:

Ala Ser Leu Val Ser Asn Thr Ser Ser Gly Glu Gly Ser Gln Pro Ser
1 5 10 15
35 Arg Thr Glu Asn Arg Asp Pro Leu Pro Asn Pro Trp Ala Pro Gln Thr
20 25 30

40
45 (2) INFORMATION FOR SEQ ID NO: 590:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 71 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 590:

Ser Gln Ser Ser Ser Ala Ser Ser Gly Thr Ala Ser Thr Val Gly Gly
1 5 10 15
55 Thr Thr Gly Ser Thr Ala Ser Gly Thr Ser Gly Gln Ser Thr Thr Ala
20 25 30
Pro Asn Leu Val Pro Gly Val Gly Ala Ser Met Phe Asn Thr Pro Gly
35 40 45
60

Met Gln Ser Leu Leu Gln Gln Ile Thr Glu Asn Pro Gln Leu Met Gln
50 55 60

Asn Met Leu Ser Ala Pro Tyr
5 65 70

(2) INFORMATION FOR SEQ ID NO: 591:

10 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 45 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 591:

Met Arg Ser Met Met Gln Ser Leu Ser Gln Asn Pro Asp Leu Ala Ala
1 5 10 15

20 Gln Met Met Leu Asn Asn Pro Leu Phe Ala Gly Asn Pro Gln Leu Gln
20 25 30

Glu Gln Met Arg Gln Gln Leu Pro Thr Phe Leu Gln Gln
35 40 45

25

(2) INFORMATION FOR SEQ ID NO: 592:

30 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 73 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 592:

35 Met Gln Asn Pro Asp Thr Leu Ser Ala Met Ser Asn Pro Arg Ala Met
1 5 10 15

40 Gln Ala Leu Leu Gln Ile Gln Gln Gly Leu Gln Thr Leu Ala Thr Glu
20 25 30

Ala Pro Gly Leu Ile Pro Gly Phe Thr Pro Gly Leu Gly Ala Leu Gly
35 40 45

45 Ser Thr Gly Gly Ser Ser Gly Thr Asn Gly Ser Asn Ala Thr Pro Ser
50 55 60

Glu Asn Thr Ser Pro Thr Ala Gly Thr
65 70

50

(2) INFORMATION FOR SEQ ID NO: 593:

55 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 72 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 593:

60

658

Thr Gln Pro Gly His Gln Gln Phe Ile Gln Gln Met Leu Gln Ala Leu
 5 10 15

Ala Gly Val Asn Pro Gln Leu Gln Asn Pro Glu Val Arg Phe Gln Gln
 5 20 25 30

Gln Leu Gln Leu Ser Ala Met Gly Phe Leu Asn Arg Glu Ala Asn
 35 40 45

10 Leu Gln Ala Leu Ile Ala Thr Gly Gly Asp Ile Asn Ala Ala Ile Glu
 50 55 60

Arg Leu Leu Gly Ser Gln Pro Ser
 65 70

15

(2) INFORMATION FOR SEQ ID NO: 594:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 45 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 594:

25 Arg Asn Pro Ala Met Met Gln Glu Met Met Arg Asn Gln Asp Arg Ala
 1 5 10 15

Leu Ser Asn Leu Glu Ser Ile Pro Gly Gly Tyr Asn Ala Leu Arg Arg
 30 20 25 30

Met Tyr Thr Asp Ile Gln Glu Pro Met Leu Ser Ala Ala
 35 40 45

35

(2) INFORMATION FOR SEQ ID NO: 595:

40 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 13 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 595:

45 Gly Asn Pro Phe Ala Ser Leu Val Ser Asn Thr Ser Ser
 1 5 10

50 (2) INFORMATION FOR SEQ ID NO: 596:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 11 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 596:

Glu Asn Arg Asp Pro Leu Pro Asn Pro Trp Ala
 1 5 10

60

(2) INFORMATION FOR SEQ ID NO: 597:

5 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 17 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 597:

10 Gly Lys Ile Leu Lys Asp Gln Asp Thr Leu Ser Gln His Gly Ile His
1 5 10 15

15 Asp

(2) INFORMATION FOR SEQ ID NO: 598:

20 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 14 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 598:

Gly Leu Thr Val His Leu Val Ile Lys Thr Gln Asn Arg Pro
1 5 10

30

(2) INFORMATION FOR SEQ ID NO: 599:

35 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 599:

40 Ser Glu Leu Gln Ser Gln Met Gln Arg Gln Leu Leu Ser Asn Pro Glu
1 5 10 15

Met Met

45

(2) INFORMATION FOR SEQ ID NO: 600:

50 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 14 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 600:

55 Pro Glu Ile Ser His Met Leu Asn Asn Pro Asp Ile Met Arg
1 5 10

60

660

(2) INFORMATION FOR SEQ ID NO: 601:

(i) SEQUENCE CHARACTERISTICS:

- 5 (A) LENGTH: 18 amino acids
(B) TYPE: amino acid
(C) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 601:

10 Arg Gln Leu Ile Met Ala Asn Pro Gln Met Gln Gln Leu Ile Gln Arg
1 5 10 15
Asn Pro

15

(2) INFORMATION FOR SEQ ID NO: 602:

(i) SEQUENCE CHARACTERISTICS:

- 20 (A) LENGTH: 27 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 602:

25 Asn Leu Cys His Val Asp Cys Gln Asp Leu Leu Asn Pro Asn Leu Leu
1 5 10 15
Ala Gly Ile His Cys Ala Lys Arg Ile Val Ser
20 25

30

(2) INFORMATION FOR SEQ ID NO: 603:

35 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 23 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 603:

40 Leu Asp Gly Phe Glu Gly Tyr Ser Leu Ser Asp Trp Leu Cys Leu Ala
1 5 10 15
Phe Val Glu Ser Lys Phe Asn
45 20

(2) INFORMATION FOR SEQ ID NO: 604:

50 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 22 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 604:

Asn Glu Asn Ala Asp Gly Ser Phe Asp Tyr Gly Leu Phe Gln Ile Asn
1 5 10 15
60 Ser His Tyr Trp Cys Asn

20

5 (2) INFORMATION FOR SEQ ID NO: 605:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 605:

Asn Leu Cys His Val Asp Cys Gln Asp Leu Leu Asn Pro Asn Leu Leu
1 5 10 15

15 Ala Gly Ile His Cys Ala Lys Arg Ile Val Ser
20 25

20

(2) INFORMATION FOR SEQ ID NO: 606:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 13 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 606:

Ile Arg Glu Val Asn Glu Val Ile Gln Asn Pro Ala Thr
30 1 5 10

35

(2) INFORMATION FOR SEQ ID NO: 607:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 607:

Ile Thr Arg Ile Leu Leu Ser His Phe Asn Trp Asp Lys Glu Lys Leu
1 5 10 15

45 Met Glu Arg Tyr Phe Asp Gly Asn Leu Glu Lys Leu Phe Ala
20 25 30

50

(2) INFORMATION FOR SEQ ID NO: 608:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 23 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 608:

Asn Thr Arg Ser Ser Ala Gln Asp Met Pro Cys Gln Ile Cys Tyr Leu
1 5 10 15

60

Asn Tyr Pro Asn Ser Tyr Phe
20

5

(2) INFORMATION FOR SEQ ID NO: 609:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 60 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 609:

15 Cys Asp Ile Leu Val Asp Asp Asn Thr Val Met Arg Leu Ile Thr Asp
1 5 10 15

Ser Lys Val Lys Leu Lys Tyr Gln His Leu Ile Thr Asn Ser Phe Val
20 25 30

20 Glu Cys Asn Arg Leu Leu Lys Trp Cys Pro Ala Pro Asp Cys His His
35 40 45

Val Val Lys Val Gln Tyr Pro Asp Ala Lys Pro Val
50 55 60

25

(2) INFORMATION FOR SEQ ID NO: 610:

30

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 52 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 610:

35

Cys Asp Ile Leu Val Asp Asp Asn Thr Val Met Arg Leu Ile Thr Asp
1 5 10 15

Ser Lys Val Lys Leu Lys Tyr Gln His Leu Ile Thr Asn Ser Phe Val
20 25 30

Glu Cys Asn Arg Leu Leu Lys Trp Cys Pro Ala Pro Asp Cys His His
35 40 45

45 Val Val Lys Val
50

50

(2) INFORMATION FOR SEQ ID NO: 611:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 60 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 611:

55 Gly Cys Asn His Met Val Cys Arg Asn Gln Asn Cys Lys Ala Glu Phe
1 5 10 15

60

663

Cys Trp Val Cys Leu Gly Pro Trp Glu Pro His Gly Ser Ala Trp Tyr
20 25 30

Asn Cys Asn Arg Tyr Asn Glu Asp Asp Ala Lys Ala Ala Arg Asp Ala
5 35 40 45

Gln Glu Arg Ser Arg Ala Ala Leu Gln Arg Tyr Leu
50 55 60

10

(2) INFORMATION FOR SEQ ID NO: 612:

- (i) SEQUENCE CHARACTERISTICS:
15 (A) LENGTH: 60 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 612:

20 Phe Tyr Cys Asn Arg Tyr Met Asn His Met Gln Ser Leu Arg Phe Glu
1 5 10 15

His Lys Leu Tyr Ala Gln Val Lys Gln Lys Met Glu Glu Met Gln Gln
20 25 30

25 His Asn Met Ser Trp Ile Glu Val Gln Phe Leu Lys Lys Ala Val Asp
35 40 45

30 Val Leu Cys Gln Cys Arg Ala Thr Leu Met Tyr Thr
50 55 60

(2) INFORMATION FOR SEQ ID NO: 613:

- 35 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 60 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 613:

Tyr Val Phe Ala Phe Tyr Leu Lys Lys Asn Asn Gln Ser Ile Ile Phe
1 5 10 15

45 Glu Asn Asn Gln Ala Asp Leu Glu Asn Ala Thr Glu Val Leu Ser Gly
20 25 30

Tyr Leu Glu Arg Asp Ile Ser Gln Asp Ser Leu Gln Asp Ile Lys Gln
35 40 45

50 Lys Val Gln Asp Lys Tyr Arg Tyr Cys Glu Ser Arg
50 55 60

55

(2) INFORMATION FOR SEQ ID NO: 614:

- 60 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 37 amino acids
(B) TYPE: amino acid

(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 614:

15 (2) INFORMATION FOR SEQ ID NO: 615:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 21 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 615:

Met Trp Gly Tyr Leu Phe Val Asp Ala Ala Trp Asn Phe Leu Gly Cys
 1 5 10 15
 25
 Leu Ile Cys Gly Trp
 20

30 (2) INFORMATION FOR SEQ ID NO: 616:

35 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 46 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 616:

| | |
|----|--|
| 40 | Met His Phe Ile Ser Ser Gly Asn Val Ser Ala Ile Arg Ser Ser Ile |
| | 1 5 10 15 |
| 45 | Leu Leu Leu Arg Xaa Ser Leu Ser Tyr Leu Gly Asn Cys Leu Arg Val |
| | 20 25 30 |
| 45 | Ser Ala Ile Phe Val Tyr Phe Leu Leu Phe Leu Leu Leu Ser |
| | 35 40 45 |

50 (2) INFORMATION FOR SEQ ID NO: 617:

Met Asp Gln Ala Leu Arg Gly Ser Pro Ser Glu Gly Phe Ser Thr Asp
1 5 10 15

665

Pro Ser Pro Pro Gln Val Gly Arg Gln Ile Pro Ser Phe Pro Pro Trp
20 25 30

Arg Arg Leu Val Leu Pro Lys Ala Ser Gly Cys Phe Leu Glu Arg Glu
5 35 40 45

Trp Trp Leu Cys Val Phe Lys Leu Arg Thr Arg Pro Gly Ala Glu Ala
50 55 60

10 His Ala Tyr Asn Ser Ser Ile Leu Gly Gly Arg Gly Lys Gly Ile Thr
65 70 75 80

15

(2) INFORMATION FOR SEQ ID NO: 618:

20 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 131 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 618:

25 Met Leu Pro Ala Leu Ala Ser Cys Cys His Phe Ser Pro Pro Glu Gln
1 5 10 15

Ala Ala Arg Leu Lys Lys Leu Gln Glu Gln Glu Lys Gln Lys Val
30 20 25 30

Glu Phe Arg Lys Arg Met Glu Lys Glu Val Ser Asp Phe Ile Gln Asp
35 35 40 45

35 Ser Gly Gln Ile Lys Lys Phe Gln Pro Met Asn Lys Ile Glu Arg
50 55 60

Ser Ile Leu His Asp Val Val Glu Val Ala Gly Leu Thr Ser Phe Ser
40 65 70 75 80

Phe Gly Glu Asp Asp Asp Cys Arg Tyr Val Met Ile Phe Lys Lys Glu
85 85 90 95

45 Phe Ala Pro Ser Asp Glu Glu Leu Asp Ser Tyr Arg Arg Gly Glu Glu
100 105 110

Trp Asp Pro Gln Lys Ala Glu Glu Lys Arg Asn Xaa Lys Glu Leu Ala
45 115 120 125

50 Gln Arg Gln
130

55 (2) INFORMATION FOR SEQ ID NO: 619:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 76 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 619:

Glu Glu Glu Ala Ala Gln Gln Gly Pro Val Val Val Ser Pro Ala Ser
1 5 10 15

5 Asp Tyr Lys Asp Lys Tyr Ser His Leu Ile Gly Lys Gly Ala Ala Lys
20 25 30

Asp Ala Ala His Met Leu Gln Ala Asn Lys Thr Tyr Gly Cys Xaa Pro
10 35 40 45

Val Ala Asn Lys Arg Asp Thr Arg Ser Ile Glu Glu Ala Met Asn Glu
50 55 60

15 Ile Arg Ala Lys Lys Arg Leu Arg Gln Ser Gly Glu
65 70 75

20 (2) INFORMATION FOR SEQ ID NO: 620:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 40 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 620:

Pro Pro Arg Arg Pro Ala Gln Leu Pro Leu Thr Pro Gly Ala Gly Gln
1 5 10 15

30 Gly Ala Gly Arg Asp Lys Ala Ala Ala Ile Arg Ala His Pro Gly Ala
20 25 30

Pro Pro Leu Asn His Leu Leu Pro
35 35 40

40 (2) INFORMATION FOR SEQ ID NO: 621:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 28 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 621:

Ala Val Pro Gln Ala Gly Gly Lys Gln Val Phe Asp Leu Ser Pro Leu
1 5 10 15

50 Glu Leu Gly Tyr Val Arg Gly Met Cys Val Cys Val
20 25

55 (2) INFORMATION FOR SEQ ID NO: 622:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 207 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

60

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 622:

Met Leu Pro Ala Leu Ala Ser Cys Cys His Phe Ser Pro Pro Glu Gln
 1 5 10 15
 5 Ala Ala Arg Leu Lys Lys Leu Gln Glu Gln Glu Lys Gln Gln Lys Val
 20 25 30
 10 Glu Phe Arg Lys Arg Met Glu Lys Glu Val Ser Asp Phe Ile Gln Asp
 35 40 45
 Ser Gly Gln Ile Lys Lys Phe Gln Pro Met Asn Lys Ile Glu Arg
 50 55 60
 15 Ser Ile Leu His Asp Val Val Glu Val Ala Gly Leu Thr Ser Phe Ser
 65 70 75 80
 Phe Gly Glu Asp Asp Asp Cys Arg Tyr Val Met Ile Phe Lys Lys Glu
 85 90 95
 20 Phe Ala Pro Ser Asp Glu Glu Leu Asp Ser Tyr Arg Arg Gly Glu Glu
 100 105 110
 Trp Asp Pro Gln Lys Ala Glu Glu Lys Arg Asn Xaa Lys Glu Leu Ala
 25 115 120 125
 Gln Arg Gln Glu Glu Ala Ala Gln Gln Gly Pro Val Val Val Ser
 130 135 140
 30 Pro Ala Ser Asp Tyr Lys Asp Lys Tyr Ser His Leu Ile Gly Lys Gly
 145 150 155 160
 Ala Ala Lys Asp Ala Ala His Met Leu Gln Ala Asn Lys Thr Tyr Gly
 165 170 175
 35 Cys Xaa Pro Val Ala Asn Lys Arg Asp Thr Arg Ser Ile Glu Glu Ala
 180 185 190
 Met Asn Glu Ile Arg Ala Lys Lys Arg Leu Arg Gln Ser Gly Glu
 40 195 200 205

(2) INFORMATION FOR SEQ ID NO: 623:

45 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 34 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 623:
 Leu Leu Cys Pro Val Leu Asn Ser Gly Xaa Ser Trp Asn Phe Pro His
 1 5 10 15
 55 Pro Ser Gln Pro Glu Tyr Ser Phe His Gly Phe His Ser Thr Arg Leu
 20 25 30
 Trp Ile
 60

(2) INFORMATION FOR SEQ ID NO: 624:

5 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 28 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 624:
Pro Ser Thr Pro Trp Phe Leu Phe Leu Leu Gly Leu Thr Cys Pro Phe
1 5 10 15
Ser Thr Ser His Pro Arg Trp Asp Ser Ile Pro Pro
15 20 25

(2) INFORMATION FOR SEQ ID NO: 625:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 227 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 625:
Glu Leu Ser Ile Ser Ile Ser Asn Val Ala Leu Ala Asp Glu Gly Glu
1 5 10 15
30 Tyr Thr Cys Ser Ile Phe Thr Met Pro Val Arg Thr Ala Lys Ser Leu
 20 25 30
 Val Thr Val Leu Gly Ile Pro Gln Lys Pro Ile Ile Thr Gly Tyr Lys
 35 40 45
35 Ser Ser Leu Arg Glu Lys Asp Thr Ala Thr Leu Asn Cys Gln Ser Ser
 50 55 60
 Gly Ser Lys Pro Ala Ala Arg Leu Thr Trp Arg Lys Gly Asp Gln Glu
40 65 70 75 80
 Leu His Gly Glu Pro Thr Arg Ile Gln Glu Asp Pro Asn Gly Lys Thr
 85 90 95
45 Phe Thr Val Ser Ser Ser Val Thr Phe Gln Val Thr Arg Glu Asp Asp
 100 105 110
 Gly Ala Ser Ile Val Cys Ser Val Asn His Glu Ser Leu Lys Gly Ala
 115 120 125
50 Asp Arg Ser Thr Ser Gln Arg Ile Glu Val Leu Tyr Thr Pro Thr Ala
 130 135 140
 Met Ile Arg Pro Asp Pro Pro His Pro Arg Glu Gly Gln Lys Leu Leu
55 145 150 155 160
 Leu His Cys Glu Gly Arg Gly Asn Pro Val Pro Gln Gln Tyr Leu Trp
 165 170 175
60 Glu Lys Glu Gly Ser Val Pro Pro Leu Lys Met Thr Gln Glu Ser Ala

| | | | |
|----|---|-----|-----|
| | 180 | 185 | 190 |
| | Leu Ile Phe Pro Phe Leu Asn Lys Ser Asp Ser Gly Thr Tyr Gly Cys | | |
| | 195 | 200 | 205 |
| 5 | Thr Ala Thr Ser Asn Met Gly Ser Tyr Lys Ala Tyr Tyr Thr Leu Asn | | |
| | 210 | 215 | 220 |
| | Val Asn Asp | | |
| 10 | 225 | | |

(2) INFORMATION FOR SEQ ID NO: 626:

| | | | | |
|----|---|----|----|----|
| 15 | (i) SEQUENCE CHARACTERISTICS: | | | |
| | (A) LENGTH: 64 amino acids | | | |
| | (B) TYPE: amino acid | | | |
| | (D) TOPOLOGY: linear | | | |
| 20 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 626: | | | |
| | Glu Leu Ser Ile Ser Ile Ser Asn Val Ala Leu Ala Asp Glu Gly Glu | | | |
| | 1 | 5 | 10 | 15 |
| 25 | Tyr Thr Cys Ser Ile Phe Thr Met Pro Val Arg Thr Ala Lys Ser Leu | | | |
| | 20 | 25 | 30 | |
| | Val Thr Val Leu Gly Ile Pro Gln Lys Pro Ile Ile Thr Gly Tyr Lys | | | |
| | 35 | 40 | 45 | |
| 30 | Ser Ser Leu Arg Glu Lys Asp Thr Ala Thr Leu Asn Cys Gln Ser Ser | | | |
| | 50 | 55 | 60 | |

35

(2) INFORMATION FOR SEQ ID NO: 627:

| | | | | |
|----|---|----|----|----|
| 40 | (i) SEQUENCE CHARACTERISTICS: | | | |
| | (A) LENGTH: 65 amino acids | | | |
| | (B) TYPE: amino acid | | | |
| | (D) TOPOLOGY: linear | | | |
| 45 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 627: | | | |
| | Cys Gln Ser Ser Gly Ser Lys Pro Ala Ala Arg Leu Thr Trp Arg Lys | | | |
| | 1 | 5 | 10 | 15 |
| 50 | Gly Asp Gln Glu Leu His Gly Glu Pro Thr Arg Ile Gln Glu Asp Pro | | | |
| | 20 | 25 | 30 | |
| | Asn Gly Lys Thr Phe Thr Val Ser Ser Val Thr Phe Gln Val Thr | | | |
| | 35 | 40 | 45 | |
| 55 | Arg Glu Asp Asp Gly Ala Ser Ile Val Cys Ser Val Asn His Glu Ser | | | |
| | 50 | 55 | 60 | |
| 60 | Leu | | | |
| | 65 | | | |

(2) INFORMATION FOR SEQ ID NO: 628:

5

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 58 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 628:

His Glu Ser Leu Lys Gly Ala Asp Arg Ser Thr Ser Gln Arg Ile Glu
1 5 10 15

15 Val Leu Tyr Thr Pro Thr Ala Met Ile Arg Pro Asp Pro Pro His Pro
20 25 30

Arg Glu Gly Gln Lys Leu Leu Leu His Cys Glu Gly Arg Gly Asn Pro
35 40 45

20 Val Pro Gln Gln Tyr Leu Trp Glu Lys Glu
50 55

25

(2) INFORMATION FOR SEQ ID NO: 629:

30

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 52 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 629:

35 Trp Glu Lys Glu Gly Ser Val Pro Pro Leu Lys Met Thr Gln Glu Ser
1 5 10 15

Ala Leu Ile Phe Pro Phe Leu Asn Lys Ser Asp Ser Gly Thr Tyr Gly
20 25 30

40

Cys Thr Ala Thr Ser Asn Met Gly Ser Tyr Lys Ala Tyr Tyr Thr Leu
35 40 45

Asn Val Asn Asp
50

45

(2) INFORMATION FOR SEQ ID NO: 630:

50

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 123 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 630:

55

Val Pro Glu Leu Pro Asp Arg Val His Gln Leu His Gln Ala Val Gln
1 5 10 15

60

Gly Cys Ala Leu Gly Arg Pro Gly Phe Pro Gly Pro Thr His Ser
20 25 30

Gly His His Lys Ser His Pro Gly Pro Ala Gly Gly Asp Tyr Asn Arg
35 40 45

5 Cys Asp Arg Pro Gly Gln Val His Leu His Asn Pro Arg Gly Thr Gly
50 55 60

Arg Arg Gly Gln Leu His Pro Thr Ala Gly Pro Gly Val His Arg Arg
65 70 75 80

10 Ala Cys Pro Ser Gln Gln Leu Pro His Arg Leu Gly Pro Gly Val Pro
85 90 95

Cys Pro Ser Pro Ser Leu Thr Pro Val Leu Pro Ser Trp Thr Gln Ser
15 100 105 110

Trp Cys Gly Leu Pro Gly Tyr Thr Ser Ser Ser
115 120

20

(2) INFORMATION FOR SEQ ID NO: 631:

25 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 22 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 631:

30 Val His Gln Leu His Gln Ala Val Gln Gly Cys Ala Leu Gly Arg Pro
1 5 10 15

Gly Phe Pro Gly Gly Pro
20

35

(2) INFORMATION FOR SEQ ID NO: 632:

40 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 42 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 632:

45 Pro Thr His Ser Gly His His Lys Ser His Pro Gly Pro Ala Gly Gly
1 5 10 15

Asp Tyr Asn Arg Cys Asp Arg Pro Gly Gln Val His Leu His Asn Pro
50 20 25 30

Arg Gly Thr Gly Arg Arg Gly Gln Leu His
35 40

55

(2) INFORMATION FOR SEQ ID NO: 633:

60 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 55 amino acids

(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 633:

5 Leu His Pro Thr Ala Gly Pro Gly Val His Arg Arg Ala Cys Pro Ser
1 5 10 15

Gln Gln Leu Pro His Arg Leu Gly Pro Gly Val Pro Cys Pro Ser Pro
20 25 30

10 Ser Leu Thr Pro Val Leu Pro Ser Trp Thr Gln Ser Trp Cys Gly Leu
35 40 45

Pro Gly Tyr Thr Ser Ser Ser
15 50 55

(2) INFORMATION FOR SEQ ID NO: 634:

20 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 276 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 634:

Ser Leu Arg Arg Pro Arg Ser Ala Ala Xaa Gln Thr Leu Thr Thr Phe
1 5 10 15

30 Leu Ser Ser Val Ser Ser Ala Ser Ser Ser Ala Leu Pro Gly Ser Arg
20 25 30

Glu Pro Cys Asp Pro Arg Ala Pro Pro Pro Pro Arg Ser Gly Ser Ala
35 40 45

35 Ala Ser Cys Cys Ser Cys Cys Ser Cys Pro Arg Arg Arg Ala Pro
50 55 60

Leu Arg Ser Pro Arg Gly Ser Lys Arg Arg Ile Arg Gln Arg Glu Val
40 65 70 75 80

Val Asp Leu Tyr Asn Gly Met Cys Leu Gln Gly Pro Ala Gly Val Pro
85 90 95

45 Gly Arg Asp Gly Ser Pro Gly Ala Asn Gly Ile Pro Gly Thr Pro Gly
100 105 110

Ile Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys Gly Glu Cys Leu Arg
115 120 125

50 Glu Ser Phe Glu Glu Ser Trp Thr Pro Asn Tyr Lys Gln Cys Ser Trp
130 135 140

55 Ser Ser Leu Asn Tyr Gly Ile Asp Leu Gly Lys Ile Ala Glu Cys Thr
145 150 155 160

Phe Thr Lys Met Arg Ser Asn Ser Ala Leu Arg Val Leu Phe Ser Gly
165 170 175

60 Ser Leu Arg Leu Lys Cys Arg Asn Ala Cys Cys Gln Arg Trp Tyr Phe

| | | | |
|----|---|-----|-----|
| | 180 | 185 | 190 |
| | Thr Phe Asn Gly Ala Glu Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile | | |
| | 195 | 200 | 205 |
| 5 | Ile Tyr Leu Asp Gln Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile | | |
| | 210 | 215 | 220 |
| | His Arg Thr Ser Ser Val Glu Gly Leu Cys Glu Gly Ile Gly Ala Gly | | |
| 10 | 225 | 230 | 235 |
| | Leu Val Asp Val Ala Ile Trp Val Gly Thr Cys Ser Asp Tyr Pro Lys | | |
| | 245 | 250 | 255 |
| 15 | Gly Asp Ala Ser Thr Gly Trp Asn Ser Val Ser Arg Ile Ile Glu | | |
| | 260 | 265 | 270 |
| | Glu Leu Pro Lys | | |
| | 275 | | |
| 20 | | | |

(2) INFORMATION FOR SEQ ID NO: 635:

| | | | |
|----|---|----|----|
| 25 | (i) SEQUENCE CHARACTERISTICS: | | |
| | (A) LENGTH: 61 amino acids | | |
| | (B) TYPE: amino acid | | |
| | (D) TOPOLOGY: linear | | |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 635: | | |
| 30 | Ser Leu Arg Arg Pro Arg Ser Ala Ala Xaa Gln Thr Leu Thr Thr Phe | | |
| | 1 | 5 | 10 |
| | Leu Ser Ser Val Ser Ser Ala Ser Ser Ala Leu Pro Gly Ser Arg | | |
| 35 | 20 | 25 | 30 |
| | Glu Pro Cys Asp Pro Arg Ala Pro Pro Pro Pro Arg Ser Gly Ser Ala | | |
| | 35 | 40 | 45 |
| 40 | Ala Ser Cys Cys Ser Cys Cys Ser Cys Pro Arg Arg | | |
| | 50 | 55 | 60 |

45 (2) INFORMATION FOR SEQ ID NO: 636:

| | | | |
|----|---|----|----|
| 45 | (i) SEQUENCE CHARACTERISTICS: | | |
| | (A) LENGTH: 52 amino acids | | |
| | (B) TYPE: amino acid | | |
| | (D) TOPOLOGY: linear | | |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 636: | | |
| 50 | Arg Ala Pro Leu Arg Ser Pro Arg Gly Ser Lys Arg Arg Ile Arg Gln | | |
| | 1 | 5 | 10 |
| | Arg Glu Val Val Asp Leu Tyr Asn Gly Met Cys Leu Gln Gly Pro Ala | | |
| 55 | 20 | 25 | 30 |
| | Gly Val Pro Gly Arg Asp Gly Ser Pro Gly Ala Asn Gly Ile Pro Gly | | |
| 60 | 35 | 40 | 45 |

Thr Pro Gly Ile
50

5

(2) INFORMATION FOR SEQ ID NO: 637:

- 10 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 52 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 637:

15 Thr Pro Gly Ile Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys Gly Glu
1 5 10 15
Cys Leu Arg Glu Ser Phe Glu Glu Ser Trp Thr Pro Asn Tyr Lys Gln
20 25 30
20 Cys Ser Trp Ser Ser Leu Asn Tyr Gly Ile Asp Leu Gly Lys Ile Ala
35 40 45
25 Glu Cys Thr Phe
50

(2) INFORMATION FOR SEQ ID NO: 638:

- 30 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 66 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 638:

Phe Thr Lys Met Arg Ser Asn Ser Ala Leu Arg Val Leu Phe Ser Gly
1 5 10 15
40 Ser Leu Arg Leu Lys Cys Arg Asn Ala Cys Cys Gln Arg Trp Tyr Phe
20 25 30
45 Thr Phe Asn Gly Ala Glu Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile
35 40 45
Ile Tyr Leu Asp Gln Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile
50 55 60
50 His Arg
65

(2) INFORMATION FOR SEQ ID NO: 639:

- 55 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 51 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
60 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 639:

Arg Thr Ser Ser Val Glu Gly Leu Cys Glu Gly Ile Gly Ala Gly Leu
1 5 10 15

5 Val Asp Val Ala Ile Trp Val Gly Thr Cys Ser Asp Tyr Pro Lys Gly
20 25 30

Asp Ala Ser Thr Gly Trp Asn Ser Val Ser Arg Ile Ile Ile Glu Glu
35 40 45

10 Leu Pro Lys
50

15 (2) INFORMATION FOR SEQ ID NO: 640:

(i) SEQUENCE CHARACTERISTICS:
20 (A) LENGTH: 26 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 640:

25 Thr Lys Lys Glu Asn Cys Arg Pro Ala Ser Leu Met Asn Ile Asp Thr
1 5 10 15

Lys Ile Leu Asn Lys Ile Leu Met Asn Gln
20 25

30 (2) INFORMATION FOR SEQ ID NO: 641:

(i) SEQUENCE CHARACTERISTICS:
35 (A) LENGTH: 214 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 641:

40 Met Cys Asn Leu Pro Ile Lys Val Val Cys Arg Ala Asn Ala Glu Tyr
1 5 10 15

Met Ser Pro Ser Gly Lys Val Pro Xaa Xaa His Val Gly Asn Gln Val
20 25 30

45 Val Ser Glu Leu Gly Pro Ile Val Gln Phe Val Lys Ala Lys Gly His
35 40 45

50 Ser Leu Ser Asp Gly Leu Glu Glu Val Gln Lys Ala Glu Met Lys Ala
50 55 60

Tyr Met Glu Leu Val Asn Asn Met Leu Leu Thr Ala Glu Leu Tyr Leu
65 70 75 80

55 Gln Trp Cys Asp Glu Ala Thr Val Gly Xaa Ile Thr His Xaa Arg Tyr
85 90 95

Gly Ser Pro Tyr Pro Trp Pro Leu Xaa His Ile Leu Ala Tyr Gln Lys
100 105 110

60

Gln Trp Glu Val Lys Arg Lys Xaa Lys Ala Ile Gly Trp Gly Lys Lys
115 120 125

5 Thr Leu Asp Gln Val Leu Glu Asp Val Asp Gln Cys Cys Gln Ala Leu
130 135 140

Ser Gln Arg Leu Gly Thr Gln Pro Tyr Phe Phe Asn Lys Gln Pro Thr
145 150 155 160

10 Glu Leu Asp Ala Leu Val Phe Gly His Leu Tyr Thr Ile Leu Thr Thr
165 170 175

Gln Leu Thr Asn Asp Glu Leu Ser Glu Lys Val Lys Asn Tyr Ser Asn
180 185 190

15 Leu Leu Ala Phe Cys Arg Arg Ile Glu Gln His Tyr Phe Glu Asp Arg
195 200 205

Gly Lys Gly Arg Leu Ser
20 210

(2) INFORMATION FOR SEQ ID NO: 642:

25 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 44 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 642:

Met Cys Asn Leu Pro Ile Lys Val Val Cys Arg Ala Asn Ala Glu Tyr
1 5 10 15

35 Met Ser Pro Ser Gly Lys Val Pro Xaa Xaa His Val Gly Asn Gln Val
20 25 30

Val Ser Glu Leu Gly Pro Ile Val Gln Phe Val Lys
35 40

40

(2) INFORMATION FOR SEQ ID NO: 643:

45 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 44 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 643:

50 Phe Val Lys Ala Lys Gly His Ser Leu Ser Asp Gly Leu Glu Val
1 5 10 15

Gln Lys Ala Glu Met Lys Ala Tyr Met Glu Leu Val Asn Asn Met Leu
55 20 25 30

Leu Thr Ala Glu Leu Tyr Leu Gln Trp Cys Asp Glu
35 40

60

(2) INFORMATION FOR SEQ ID NO: 644:

(i) SEQUENCE CHARACTERISTICS:

- 5 (A) LENGTH: 51 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 644:

10 Leu Gln Trp Cys Asp Glu Ala Thr Val Gly Xaa Ile Thr His Xaa Arg
1 5 10 15

Tyr Gly Ser Pro Tyr Pro Trp Pro Leu Xaa His Ile Leu Ala Tyr Gln
20 25 30

15 Lys Gln Trp Glu Val Lys Arg Lys Xaa Lys Ala Ile Gly Trp Gly Lys
35 40 45

Lys Thr Leu
20 50

(2) INFORMATION FOR SEQ ID NO: 645:

- 25 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 43 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 645:

Asp Gln Val Leu Glu Asp Val Asp Gln Cys Cys Gln Ala Leu Ser Gln
1 5 10 15

35 Arg Leu Gly Thr Gln Pro Tyr Phe Phe Asn Lys Gln Pro Thr Glu Leu
20 25 30

Asp Ala Leu Val Phe Gly His Leu Tyr Thr Ile
35 40

40

(2) INFORMATION FOR SEQ ID NO: 646:

- 45 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 41 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 646:

50 Leu Thr Thr Gln Leu Thr Asn Asp Glu Leu Ser Glu Lys Val Lys Asn
1 5 10 15

Tyr Ser Asn Leu Leu Ala Phe Cys Arg Arg Ile Glu Gln His Tyr Phe
55 20 25 30

Glu Asp Arg Gly Lys Gly Arg Leu Ser
35 40

(2) INFORMATION FOR SEQ ID NO: 647:

(i) SEQUENCE CHARACTERISTICS:

5

- (A) LENGTH: 70 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 647:

10 Met Xaa Xaa Xaa Asn Ser His Ile Thr Ile Phe Thr Leu Asn Val Asn
1 5 10 15

Gly Leu Asn Ala Pro Asn Glu Arg His Arg Leu Ala Asn Trp Ile Gln
20 25 30

15 Ser Gln Asp Gln Val Cys Cys Ile Gln Glu Thr His Leu Thr Gly Arg
35 40 45

Asp Thr His Arg Leu Lys Ile Lys Gly Trp Arg Lys Ile Tyr Gln Ala
20 50 55 60

Asn Gly Lys Gln Lys Lys
65 70

25

(2) INFORMATION FOR SEQ ID NO: 648:

(i) SEQUENCE CHARACTERISTICS:

30

- (A) LENGTH: 28 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 648:

35 Phe Thr Leu Asn Val Asn Gly Leu Asn Ala Pro Asn Glu Arg His Arg
1 5 10 15

Leu Ala Asn Trp Ile Gln Ser Gln Asp Gln Val Cys
20 25

40

(2) INFORMATION FOR SEQ ID NO: 649:

45

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 17 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 649:

50

Thr His Leu Thr Gly Arg Asp Thr His Arg Leu Lys Ile Lys Gly Trp
1 5 10 15

55 Arg

(2) INFORMATION FOR SEQ ID NO: 650:

60

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 14 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 650:

Gly Trp Arg Lys Ile Tyr Gln Ala Asn Gly Lys Gln Lys Lys
1 5 10

10

(2) INFORMATION FOR SEQ ID NO: 651:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 54 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 651:

Ile Tyr His Leu His Ser Trp Ile Phe Phe His Phe Lys Arg Ala Phe
1 5 10 15

Cys Met Cys Phe Ile Thr Met Lys Val Ile His Ala His Cys Ser Lys
20 25 30

25 Leu Arg Lys Cys Xaa Asn Ala Gln Ile Ser Val Phe Cys Thr Thr Leu
35 40 45

30 Thr Ala Ser Tyr Pro Thr
50

(2) INFORMATION FOR SEQ ID NO: 652:

35

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 23 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 652:

Ile Tyr His Leu His Ser Trp Ile Phe Phe His Phe Lys Arg Ala Phe
1 5 10 15

45 Cys Met Cys Phe Ile Thr Met
20

50 (2) INFORMATION FOR SEQ ID NO: 653:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 653:

Lys Val Ile His Ala His Cys Ser Lys Leu Arg Lys Cys Xaa Asn Ala
1 5 10 15

60

Gln Ile Ser Val Phe Cys Thr Thr Leu Thr Ala Ser Tyr Pro Thr
20 25 30

5

(2) INFORMATION FOR SEQ ID NO: 654:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 58 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 654:

Trp Asn Leu Leu Trp Tyr Phe Gln Arg Leu Arg Leu Pro Ser Ile Leu
15 1 5 10 15

Pro Gly Leu Val Leu Ala Ser Cys Asp Gly Pro Ser Xaa Ser Gln Ala
20 25 30

20 Pro Ser Pro Trp Leu Thr Pro Asp Pro Ala Ser Val Gln Val Arg Leu
35 40 45

Leu Trp Asp Val Leu Thr Pro Asp Pro Asn
50 55

25

(2) INFORMATION FOR SEQ ID NO: 655:

30 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 54 amino acids

- (B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 655:

35 Gln Arg Gly Ile Tyr Arg Glu Ile Leu Phe Leu Thr Met Ala Ala Leu
1 5 10 15

40 Gly Lys Asp His Val Asp Ile Val Ala Phe Asp Lys Lys Tyr Lys Ser
20 25 30

Ala Phe Asn Lys Leu Ala Ser Ser Met Gly Lys Glu Glu Leu Arg His
35 40 45

45 Arg Arg Ala Gln Met Pro
50

50 (2) INFORMATION FOR SEQ ID NO: 656:

(i) SEQUENCE CHARACTERISTICS:

- 55 (A) LENGTH: 23 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 656:

Trp Asn Leu Leu Trp Tyr Phe Gln Arg Leu Arg Leu Pro Ser Ile Leu
1 5 10 15

60

Pro Gly Leu Val Leu Ala Ser
20

5

(2) INFORMATION FOR SEQ ID NO: 657:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 191 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 657:

Glu Asp Asp Gly Phe Asn Arg Ser Ile His Glu Val Ile Leu Lys Asn
15 1 5 10 15

Ile Thr Trp Tyr Ser Glu Arg Val Leu Thr Glu Ile Ser Leu Gly Ser
20 25 30

20 Leu Leu Ile Leu Val Val Ile Arg Thr Ile Gln Tyr Asn Met Thr Arg
35 40 45

Thr Arg Asp Lys Tyr Leu His Thr Asn Cys Leu Ala Ala Leu Ala Asn
50 55 60

25 Met Ser Ala Gln Phe Arg Ser Leu His Gln Tyr Ala Ala Gln Arg Ile
65 70 75 80

30 Ile Ser Leu Phe Ser Leu Leu Ser Lys Lys His Asn Lys Val Leu Glu
85 90 95

Gln Ala Thr Gln Ser Leu Arg Gly Ser Leu Ser Ser Asn Asp Val Pro
100 105 110

35 Leu Pro Asp Tyr Ala Gln Asp Leu Asn Val Ile Glu Glu Val Ile Arg
115 120 125

Met Met Leu Glu Ile Ile Asn Ser Cys Leu Thr Asn Ser Leu His His
130 135 140

40 Asn Pro Asn Leu Val Tyr Ala Leu Leu Tyr Lys Arg Asp Leu Phe Glu
145 150 155 160

45 Gln Phe Arg Thr His Pro Ser Phe Gln Asp Ile Met Gln Asn Ile Asp
165 170 175

Leu Val Ile Ser Phe Phe Ser Ser Arg Leu Leu Gln Ala Gly Ser
180 185 190

50

(2) INFORMATION FOR SEQ ID NO: 658:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 38 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 658:

60 Glu Asp Asp Gly Phe Asn Arg Ser Ile His Glu Val Ile Leu Lys Asn

682

1 5 10 15
Ile Thr Trp Tyr Ser Glu Arg Val Leu Thr Glu Ile Ser Leu Gly Ser
20 25 30
5 Leu Leu Ile Leu Val Val
 35

10 (2) INFORMATION FOR SEQ ID NO: 659:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 53 amino acids
15 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 659:

20 Arg Thr Ile Gln Tyr Asn Met Thr Arg Thr Arg Asp Lys Tyr Leu His
 1 5 10 15
 Thr Asn Cys Leu Ala Ala Leu Ala Asn Met Ser Ala Gln Phe Arg Ser
 20 25 30
25 Leu His Gln Tyr Ala Ala Gln Arg Ile Ile Ser Leu Phe Ser Leu Leu
 35 40 45
 Ser Lys Lys His Asn
 50
30

(2) INFORMATION FOR SEQ ID NO: 660:

35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 56 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 660:
40 Ser Cys Leu Thr Asn Ser Leu His His Asn Pro Asn Leu Val Tyr Ala
 1 5 10 15
 Leu Leu Tyr Lys Arg Asp Leu Phe Glu Gln Phe Arg Thr His Pro Ser
45 20 25 30
 Phe Gln Asp Ile Met Gln Asn Ile Asp Leu Val Ile Ser Phe Phe Ser
 35 40 45
50 Ser Arg Leu Leu Gln Ala Gly Ser
 50 55

55 (2) INFORMATION FOR SEQ ID NO: 661:

60 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 31 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 661:

Lys Lys His Asn Lys Val Leu Glu Gln Ala Thr Gln Ser Leu Arg Gly
1 5 10 15
5 Ser Leu Ser Ser Asn Asp Val Pro Leu Pro Asp Tyr Ala Gln Asp
20 25 30

10

(2) INFORMATION FOR SEQ ID NO: 662:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 125 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 662:

Met Ala Asp Ile Gln Thr Glu Arg Ala Tyr Gln Lys Gln Pro Thr Ile
20 1 5 10 15

Phe Gln Asn Lys Lys Arg Val Leu Leu Gly Glu Thr Gly Lys Glu Lys
20 25 30

25 Leu Pro Arg Val Thr Asn Lys Asn Ile Gly Leu Gly Phe Lys Asp Thr
35 40 45

Pro Arg Arg Leu Leu Arg Gly Thr Tyr Ile Asp Lys Lys Cys Pro Phe
50 55 60

30 Thr Gly Asn Val Ser Ile Arg Gly Arg Ile Leu Ser Gly Val Val Thr
65 70 75 80

Gln Asp Glu Asp Ala Glu Asp His Cys His Pro Pro Arg Leu Ser Ala
35 85 90 95

Leu His Pro Gln Val Gln Pro Leu Arg Glu Ala Pro Gln Glu His Val
100 105 110

40 Cys Thr Pro Val Pro Leu Leu Gln Gly Arg Pro Asp Arg
115 120 125

45 (2) INFORMATION FOR SEQ ID NO: 663:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 79 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 663:

Met Lys Met Gln Arg Thr Ile Val Ile Arg Arg Asp Tyr Leu His Tyr
1 5 10 15
55 Ile Arg Lys Tyr Asn Arg Phe Glu Lys Arg His Lys Asn Met Ser Val
20 25 30

60 His Leu Ser Pro Cys Phe Arg Asp Val Gln Ile Gly Asp Ile Val Thr
35 40 45

Val Gly Glu Cys Arg Pro Leu Ser Lys Thr Val Arg Phe Asn Val Ser
 50 55 60

5 Lys Val Thr Lys Ala Ala Gly Thr Lys Lys Gln Phe Glu Lys Phe
 65 70 75

10 (2) INFORMATION FOR SEQ ID NO: 664:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 664:

15 Met Ala Asp Ile Gln Thr Glu Arg Ala Tyr Gln Lys Glu Prox Thr Ile
 1 5 10 15

20 Phe Gln Asn Lys Lys Arg Val Leu Leu Gly Glu Thr Gly Lys
 20 25 30

25 (2) INFORMATION FOR SEQ ID NO: 665:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 58 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 665:

30 Lys Leu Pro Arg Val Thr Asn Lys Asn Ile Gly Leu Gly Phe Lys Asp
 35 1 5 10 15

Thr Pro Arg Arg Leu Leu Arg Gly Thr Tyr Ile Asp Lys Lys Cys Pro
 20 25 30

40 Phe Thr Gly Asn Val Ser Ile Arg Gly Arg Ile Leu Ser Gly Val Val
 35 40 45

45 Thr Gln Asp Glu Asp Ala Glu Asp His Cys
 50 55

(2) INFORMATION FOR SEQ ID NO: 666:

50 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 38 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 666:

55 His Cys His Pro Pro Arg Leu Ser Ala Leu His Pro Gln Val Glu Pro
 1 5 10 15

Leu Arg Glu Ala Pro Gln Glu His Val Cys Thr Pro Val Pro Leu Leu
 60 20 25 30

Gln Gly Arg Pro Asp Arg
35

5

(2) INFORMATION FOR SEQ ID NO: 667:

- (i) SEQUENCE CHARACTERISTICS:
10 (A) LENGTH: 36 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 667:

15 Met Lys Met Gln Arg Thr Ile Val Ile Arg Arg Asp Tyr Leu His Tyr
1 5 10 15

Ile Arg Lys Tyr Asn Arg Phe Glu Lys Arg His Lys Asn Met Ser Val
20 25 30
20 His Leu Ser Pro
35

25

(2) INFORMATION FOR SEQ ID NO: 668:

- (i) SEQUENCE CHARACTERISTICS:
30 (A) LENGTH: 43 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 668:

35 Cys Phe Arg Asp Val Gln Ile Gly Asp Ile Val Thr Val Gly Glu Cys
1 5 10 15

Arg Pro Leu Ser Lys Thr Val Arg Phe Asn Val Leu Lys Val Thr Lys
20 25 30

40 Ala Ala Gly Thr Lys Lys Gln Phe Gln Lys Phe
35 40

45 (2) INFORMATION FOR SEQ ID NO: 669:

- (i) SEQUENCE CHARACTERISTICS:
50 (A) LENGTH: 33 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 669:

Pro Arg Arg Leu Leu Arg Gly Thr Tyr Ile Asp Lys Lys Cys Pro Phe
1 5 10 15

55 Thr Gly Asn Val Ser Ile Arg Gly Arg Ile Leu Ser Gly Val Val Thr
20 25 30

60 Gln

5 (2) INFORMATION FOR SEQ ID NO: 670:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 60 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 670:

Ile Phe Tyr Asp Ser Asp Trp Asn Pro Thr Val Asp Gln Gln Ala Met

1 5 10 15

15 Asp Arg Ala His Arg Leu Gly Gln Thr Lys Gln Val Thr Val Tyr Arg
20 25 30Leu Ile Cys Lys Gly Thr Ile Glu Glu Arg Ile Leu Gln Arg Ala Lys
35 40 4520 Glu Lys Ser Glu Ile Gln Arg Met Val Ile Ser Gly
50 55 60

25

(2) INFORMATION FOR SEQ ID NO: 671:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 67 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 671:

35 Thr Arg Met Ile Asp Leu Leu Glu Glu Tyr Met Val Tyr Arg Lys His
1 5 10 15Thr Tyr Xaa Arg Leu Asp Gly Ser Ser Lys Ile Ser Glu Arg Arg Asp
20 25 3040 Met Val Ala Asp Phe Gln Asn Arg Asn Asp Ile Phe Val Phe Leu Leu
35 40 45Ser Thr Arg Ala Gly Gly Leu Gly Ile Asn Leu Thr Ala Xaa Asp Thr
50 55 6045 Val His Phe
65

50

(2) INFORMATION FOR SEQ ID NO: 672:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 32 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 672:

60 Ile Phe Tyr Asp Ser Asp Trp Asn Pro Thr Val Asp Gln Gln Ala Met
1 5 10 15

Asp Arg Ala His Arg Leu Gly Gln Thr Lys Gln Val Thr Val Tyr Arg
20 25 30

5

10 (2) INFORMATION FOR SEQ ID NO: 673:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 31 amino acids

(B) TYPE: amino acid

15 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 673:

Val Tyr Arg Leu Ile Cys Lys Gly Thr Ile Glu Glu Arg Ile Leu Gln
1 5 10 15

20 Arg Ala Lys Glu Lys Ser Glu Ile Gln Arg Met Val Ile Ser Gly
20 25 30

25

(2) INFORMATION FOR SEQ ID NO: 674:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 33 amino acids

30 (B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 674:

Thr Arg Met Ile Asp Leu Leu Glu Glu Tyr Met Val Tyr Arg Lys His
35 1 5 10 15

Thr Tyr Xaa Arg Leu Asp Gly Ser Ser Lys Ile Ser Glu Arg Arg Asp
20 25 30

40 Met

45 (2) INFORMATION FOR SEQ ID NO: 675:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 38 amino acids

(B) TYPE: amino acid

50 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 675:

Arg Arg Asp Met Val Ala Asp Phe Gln Asn Arg Asn Asp Ile Phe Val
55 1 5 10 15

Phe Leu Leu Ser Thr Arg Ala Gly Gly Leu Gly Ile Asn Leu Thr Ala
20 25 30

Xaa Asp Thr Val His Phe
60 35

5 (2) INFORMATION FOR SEQ ID NO: 676:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 37 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 676:

Ile Phe Tyr Asp Ser Asp Trp Asn Pro Thr Val Asp Gln Gln Ala Met
1 5 10 15

15 Asp Arg Ala His Arg Leu Gly Gln Thr Lys Gln Val Thr Val Tyr Arg
20 25 30

Leu Ile Cys Lys Gly
35

20

(2) INFORMATION FOR SEQ ID NO: 677:

- 25 (i) SEQUENCE CHARACTERISTICS:
-
- (A) LENGTH: 37 amino acids
-
- (B) TYPE: amino acid
-
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 677:

30 Ile Phe Tyr Asp Ser Asp Trp Asn Pro Thr Val Asp Gln Gln Ala Met
1 5 10 15Asp Arg Ala His Arg Leu Gly Gln Thr Lys Gln Val Thr Val Tyr Arg
35 20 25 30

Leu Ile Cys Lys Gly
35

40

(2) INFORMATION FOR SEQ ID NO: 678:

- 45 (i) SEQUENCE CHARACTERISTICS:
-
- (A) LENGTH: 29 amino acids
-
- (B) TYPE: amino acid
-
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 678:

50 Arg Leu Ile Cys Lys Gly Thr Ile Glu Glu Arg Ile Leu Gln Arg Ala
1 5 10 15

Lys Glu Lys Ser Glu Ile Gln Arg Met Val Ile Ser Gly
20 25

55

(2) INFORMATION FOR SEQ ID NO: 679:

- 60 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 364 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 679:

5

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ser | Leu | His | Gly | Lys | Arg | Lys | Glu | Ile | Tyr | Lys | Tyr | Glu | Ala | Pro |
| 1 | | | | | | | | | 10 | | | | | 15 | |

10

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Thr | Val | Tyr | Ala | Met | Asn | Trp | Ser | Val | Arg | Pro | Asp | Lys | Arg | Phe |
| | | | | | 20 | | | | 25 | | | | 30 | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Leu | Ala | Leu | Gly | Ser | Phe | Val | Glu | Glu | Tyr | Asn | Asn | Lys | Val | Gln |
| | | | | | 35 | | | 40 | | | | 45 | | | |

15 20

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Val | Gly | Leu | Asp | Glu | Glu | Ser | Ser | Glu | Phe | Ile | Cys | Arg | Asn | Thr |
| | | | | | 50 | | 55 | | | 60 | | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Asp | His | Pro | Tyr | Pro | Thr | Thr | Lys | Leu | Met | Trp | Ile | Pro | Asp | Thr |
| | | | | | 65 | | 70 | | | 75 | | | 80 | | |

25

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Gly | Val | Tyr | Pro | Asp | Leu | Leu | Ala | Thr | Ser | Gly | Asp | Tyr | Leu | Arg |
| | | | | | 85 | | | 90 | | | 95 | | | | |

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| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Trp | Arg | Val | Gly | Glu | Thr | Glu | Thr | Arg | Leu | Glu | Cys | Leu | Leu | Asn |
| | | | | | 100 | | | 105 | | | 110 | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Asn | Lys | Asn | Ser | Asp | Phe | Cys | Ala | Pro | Leu | Thr | Ser | Phe | Asp | Trp |
| | | | | | 115 | | | 120 | | | 125 | | | | |

35

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Glu | Val | Asp | Pro | Tyr | Leu | Leu | Gly | Thr | Ser | Ser | Ile | Asp | Thr | Thr |
| | | | | | 130 | | 135 | | | 140 | | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Thr | Ile | Trp | Gly | Leu | Glu | Thr | Gly | Gln | Val | Leu | Gly | Arg | Val | Asn |
| | | | | | 145 | | 150 | | | 155 | | | 160 | | |

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| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Val | Ser | Gly | His | Val | Lys | Thr | Gln | Leu | Ile | Ala | His | Asp | Lys | Glu |
| | | | | | 165 | | | 170 | | | 175 | | | | |

45

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Tyr | Asp | Ile | Ala | Phe | Ser | Arg | Ala | Gly | Gly | Gly | Arg | Asp | Met | Phe |
| | | | | | 180 | | | 185 | | | 190 | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Ser | Val | Gly | Ala | Asp | Gly | Ser | Val | Arg | Met | Phe | Asp | Leu | Arg | His |
| | | | | | 195 | | | 200 | | | 205 | | | | |

50

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Glu | His | Ser | Thr | Ile | Ile | Tyr | Glu | Asp | Pro | Gln | His | His | Pro | Leu |
| | | | | | 210 | | 215 | | | 220 | | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Arg | Leu | Cys | Trp | Asn | Lys | Gln | Asp | Pro | Asn | Tyr | Leu | Ala | Thr | Met |
| | | | | | 225 | | 230 | | | 235 | | | 240 | | |

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| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Met | Asp | Gly | Met | Glu | Val | Val | Ile | Leu | Asp | Val | Arg | Val | Pro | Ala |
| | | | | | 245 | | | 250 | | | 255 | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Leu | Xaa | Pro | Gly | Thr | Thr | Ile | Glu | His | Val | Ser | Met | Ala | Leu | Leu |
| | | | | | 260 | | | 265 | | | 270 | | | | |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Pro | His | Ile | His | Pro | Ala | Thr | Ser | Ala | Leu | Gln | Arg | Met | Thr | Thr |
| | | | | | 275 | | | 280 | | | 285 | | | | |

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| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Leu | Ser | Ser | Gly | Thr | Ser | Ser | Lys | Cys | Pro | Glu | Pro | Leu | Arg | Thr |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

690

| | | |
|---|---|-----|
| 290 | 295 | 300 |
| Leu Ser Trp Pro Thr Gln Leu Xaa Gly Glu Ile Asn Asn Val Gln Trp | | |
| 305 | 310 | 315 |
| 320 | | |
| 5 | Ala Ser Thr Gln Pro Glu Leu Ser Pro Ser Ala Thr Thr Ala Trp | |
| | 325 | 330 |
| | 335 | |
| Arg Tyr Ser Glu Cys Ser Val Gly Gly Ala Val Pro Thr Arg Gln Gly | | |
| 10 | 340 | 345 |
| | 350 | |
| Leu Leu Tyr Phe Leu Pro Leu Pro His Pro Gln Ser | | |
| | 355 | 360 |

15

(2) INFORMATION FOR SEQ ID NO: 680:

(i) SEQUENCE CHARACTERISTICS:

| | | | |
|---|---|-----|-----|
| 20 | (A) LENGTH: 136 amino acids | | |
| | (B) TYPE: amino acid | | |
| | (D) TOPOLOGY: linear | | |
| (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 680: | | | |
| 25 | Met Ser Leu His Gly Lys Arg Lys Glu Ile Tyr Lys Tyr Glu Ala Pro | | |
| | 1 | 5 | 10 |
| | 15 | | |
| Trp Thr Val Tyr Ala Met Asn Trp Ser Val Arg Pro Asp Lys Arg Phe | | | |
| 30 | 20 | 25 | 30 |
| Arg Leu Ala Leu Gly Ser Phe Val Glu Glu Tyr Asn Asn Lys Val Gln | | | |
| | 35 | 40 | 45 |
| 35 | Leu Val Gly Leu Asp Glu Glu Ser Ser Glu Phe Ile Cys Arg Asn Thr | | |
| | 50 | 55 | 60 |
| Phe Asp His Pro Tyr Pro Thr Thr Lys Leu Met Trp Ile Pro Asp Thr | | | |
| | 65 | 70 | 75 |
| | 80 | | |
| 40 | Lys Gly Val Tyr Pro Asp Leu Leu Ala Thr Ser Gly Asp Tyr Leu Arg | | |
| | 85 | 90 | 95 |
| Val Trp Arg Val Gly Glu Thr Glu Thr Arg Leu Glu Cys Leu Leu Asn | | | |
| 45 | 100 | 105 | 110 |
| Asn Asn Lys Asn Ser Asp Phe Cys Ala Pro Leu Thr Ser Phe Asp Trp | | | |
| | 115 | 120 | 125 |
| Asn Glu Val Asp Pro Tyr Leu Leu | | | |
| 50 | 130 | 135 | |

55

(2) INFORMATION FOR SEQ ID NO: 681:

(i) SEQUENCE CHARACTERISTICS:

| | | | |
|--|-----------------------------|--|--|
| 55 | (A) LENGTH: 140 amino acids | | |
| | (B) TYPE: amino acid | | |
| | (D) TOPOLOGY: linear | | |
| (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 681: | | | |

60

Ser Phe Asp Trp Asn Glu Val Asp Pro Tyr Leu Leu Gly Thr Ser Ser
 1 5 10 15

5 Ile Asp Thr Thr Cys Thr Ile Trp Gly Leu Glu Thr Gly Gln Val Leu
 20 25 30

Gly Arg Val Asn Leu Val Ser Gly His Val Lys Thr Gln Leu Ile Ala
 35 40 45

10 His Asp Lys Glu Val Tyr Asp Ile Ala Phe Ser Arg Ala Gly Gly Gly
 50 55 60

15 Arg Asp Met Phe Ala Ser Val Gly Ala Asp Gly Ser Val Arg Met Phe
 65 70 75 80

Asp Leu Arg His Leu Glu His Ser Thr Ile Ile Tyr Glu Asp Pro Gln
 85 90 95

20 His His Pro Leu Leu Arg Leu Cys Trp Asn Lys Gln Asp Pro Asn Tyr
 100 105 110

Leu Ala Thr Met Ala Met Asp Gly Met Glu Val Val Ile Leu Asp Val
 115 120 125

25 Arg Val Pro Ala His Leu Xaa Pro Gly Thr Thr Ile
 130 135 140

30

(2) INFORMATION FOR SEQ ID NO: 682:

(i) SEQUENCE CHARACTERISTICS:
 35 (A) LENGTH: 170 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 682:

40 Val Gly Ala Asp Gly Ser Val Arg Met Phe Asp Leu Arg His Leu Glu
 1 5 10 15

His Ser Thr Ile Ile Tyr Glu Asp Pro Gln His His Pro Leu Leu Arg
 20 25 30

45 Leu Cys Trp Asn Lys Gln Asp Pro Asn Tyr Leu Ala Thr Met Ala Met
 35 40 45

Asp Gly Met Glu Val Val Ile Leu Asp Val Arg Val Pro Ala His Leu
 50 55 60

50 Xaa Pro Gly Thr Thr Ile Glu His Val Ser Met Ala Leu Leu Gly Pro
 65 70 75 80

55 His Ile His Pro Ala Thr Ser Ala Leu Gln Arg Met Thr Thr Arg Leu
 85 90 95

Ser Ser Gly Thr Ser Ser Lys Cys Pro Glu Pro Leu Arg Thr Leu Ser
 100 105 110

60 Trp Pro Thr Gln Leu Xaa Gly Glu Ile Asn Asn Val Gln Trp Ala Ser

| | | | |
|----|---|-----|-----|
| | 115 | 120 | 125 |
| | Thr Gln Pro Glu Leu Ser Pro Ser Ala Thr Thr Thr Ala Trp Arg Tyr | | |
| | 130 | 135 | 140 |
| 5 | Ser Glu Cys Ser Val Gly Gly Ala Val Pro Thr Arg Gln Gly Leu Leu | | |
| | 145 | 150 | 155 |
| | Tyr Phe Leu Pro Leu Pro His Pro Gln Ser | | |
| 10 | 165 | 170 | |

(2) INFORMATION FOR SEQ ID NO: 683:

| | | | |
|----|---|-----|-----|
| 15 | (i) SEQUENCE CHARACTERISTICS: | | |
| | (A) LENGTH: 286 amino acids | | |
| | (B) TYPE: amino acid | | |
| | (D) TOPOLOGY: linear | | |
| 20 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 683: | | |
| | Leu Tyr Ala Thr Ala Thr Val Ile Ser Ser Pro Ser Thr Glu Xaa Leu | | |
| | 1 | 5 | 10 |
| | 15 | | |
| 25 | Ser Gln Asp Gln Gly Asp Arg Ala Ser Leu Asp Ala Ala Asp Ser Gly | | |
| | 20 | 25 | 30 |
| | Arg Gly Ser Trp Thr Ser Cys Ser Ser Gly Ser His Asp Asn Ile Gln | | |
| | 35 | 40 | 45 |
| 30 | Thr Ile Gln His Gln Arg Ser Trp Glu Thr Leu Pro Phe Gly His Thr | | |
| | 50 | 55 | 60 |
| | His Phe Asp Tyr Ser Gly Asp Pro Ala Gly Leu Trp Ala Ser Ser Ser | | |
| 35 | 65 | 70 | 75 |
| | 80 | | |
| | His Met Asp Gln Ile Met Phe Ser Asp His Ser Thr Lys Tyr Asn Arg | | |
| | 85 | 90 | 95 |
| 40 | Gln Asn Gln Ser Arg Glu Ser Leu Glu Gln Ala Gln Ser Arg Ala Ser | | |
| | 100 | 105 | 110 |
| | Trp Ala Ser Ser Thr Gly Tyr Trp Gly Glu Asp Ser Glu Gly Asp Thr | | |
| | 115 | 120 | 125 |
| 45 | Gly Thr Ile Lys Arg Arg Gly Gly Lys Asp Val Ser Ile Glu Ala Glu | | |
| | 130 | 135 | 140 |
| | Ser Ser Ser Leu Thr Ser Val Thr Thr Glu Glu Thr Lys Pro Val Pro | | |
| 50 | 145 | 150 | 155 |
| | 160 | | |
| | Met Pro Ala His Ile Ala Val Ala Ser Ser Thr Thr Lys Gly Leu Ile | | |
| | 165 | 170 | 175 |
| 55 | Ala Arg Lys Glu Gly Arg Tyr Arg Glu Pro Pro Pro Thr Pro Pro Gly | | |
| | 180 | 185 | 190 |
| | Tyr Ile Gly Ile Pro Ile Thr Asp Phe Pro Glu Gly His Ser His Pro | | |
| | 195 | 200 | 205 |
| 60 | | | |

693

Ala Arg Lys Pro Pro Asp Tyr Asn Val Ala Leu Gln Arg Ser Arg Met
210 215 220

5 Val Ala Arg Ser Ser Asp Thr Ala Gly Pro Ser Ser Val Gln Gln Pro
225 230 235 240

His Gly His Pro Thr Ser Ser Arg Pro Val Asn Lys Pro Gln Trp His
245 250 255

10 Lys Xaa Asn Glu Ser Asp Pro Arg Leu Ala Pro Tyr Gln Ser Gln Gly
260 265 270

Phe Ser Thr Glu Glu Asp Glu Asp Glu Gln Val Ser Ala Val
275 280 285

15

(2) INFORMATION FOR SEQ ID NO: 684:

20 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 42 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 684:

25 His Met Asp Gln Ile Met Phe Ser Asp His Ser Thr Lys Tyr Asn Arg
1 5 10 15

30 Gln Asn Gln Ser Arg Glu Ser Leu Glu Gln Ala Gln Ser Arg Ala Ser
20 25 30

Trp Ala Ser Ser Thr Gly Tyr Trp Gly Glu
35 40

35

(2) INFORMATION FOR SEQ ID NO: 685:

40 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 51 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 685:

45 Ser Val Thr Thr Glu Glu Thr Lys Pro Val Pro Met Pro Ala His Ile
1 5 10 15

50 Ala Val Ala Ser Ser Thr Thr Lys Gly Leu Ile Ala Arg Lys Glu Gly
20 25 30

Arg Tyr Arg Glu Pro Pro Pro Thr Pro Pro Gly Tyr Ile Gly Ile Pro
35 40 45

55 Ile Thr Asp
50

(2) INFORMATION FOR SEQ ID NO: 686:

60

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 57 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 686:

Val Ala Leu Gln Arg Ser Arg Met Val Ala Arg Ser Ser Asp Thr Ala
1 5 10 15

10 Gly Pro Ser Ser Val Gln Gln Pro His Gly His Pro Thr Ser Ser Arg
20 25 30

Pro Val Asn Lys Pro Gln Trp His Lys Xaa Asn Glu Ser Asp Pro Arg
35 40 45

15 Leu Ala Pro Tyr Gln Ser Gln GLy Phe
50 55

20 (2) INFORMATION FOR SEQ ID NO: 687:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 41 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 687:

30 Cys Leu Leu Phe Val Phe Val Ser Leu Gly Met Arg Cys Leu Phe Trp
1 5 10 15

Thr Ile Val Tyr Asn Val Leu Tyr Leu Lys His Lys Cys Asn Thr Val
20 25 30

35 Leu Leu Cys Tyr His Leu Cys Ser Ile
35 40

40 (2) INFORMATION FOR SEQ ID NO: 688:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 67 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 688:

50 Ala Cys Ser Lys Leu Ile Pro Ala Phe Glu Met Val Met Arg Ala Lys
1 5 10 15

55 Asp Asn Val Tyr His Leu Asp Cys Phe Ala Cys Gln Leu Cys Asn Gln
20 25 30

Arg Xaa Cys Val Gly Asp Lys Phe Phe Leu Lys Asn Asn Xaa Xaa Leu
35 40 45

55 Cys Gln Thr Asp Tyr Glu Glu Gly Leu Met Lys Glu Gly Tyr Ala Pro
50 55 60

60 Xaa Val Arg

65

5 (2) INFORMATION FOR SEQ ID NO: 689:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 45 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 689:

Ser Ala Leu Ser Glu Pro Gly Ala Pro Asp Arg Arg Arg Pro Cys Pro
1 5 10 15

Glu Ser Val Pro Arg Arg Pro Asp Asp Glu Gln Trp Pro Pro Pro Thr
20 25 30

Ala Leu Cys Leu Asp Val Ala Pro Leu Pro Pro Ser Ser
20 35 40 45

25 (2) INFORMATION FOR SEQ ID NO: 690:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 43 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 690:

Pro Val Gly Tyr Leu Asp Lys Gln Val Pro Asp Thr Ser Val Gln Glu
1 5 10 15

Thr Asp Arg Ile Leu Val Glu Lys Arg Cys Trp Asp Ile Ala Leu Gly
20 25 30

Pro Leu Lys Gln Ile Pro Met Asn Leu Phe Ile
35 40

40 (2) INFORMATION FOR SEQ ID NO: 691:

45 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 214 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 691:

50 Ala His Ala Ser Glu Ser Gly Glu Arg Trp Trp Ala Cys Cys Gly Val
1 5 10 15

Arg Phe Gly Leu Arg Ser Ile Glu Ala Ile Gly Arg Ser Cys Cys His
55 20 25 30

Asp Gly Pro Gly Gly Leu Val Ala Asn Arg Gly Arg Arg Phe Lys Trp
35 40 45

60 Ala Ile Glu Leu Ser Gly Pro Gly Gly Ser Arg Gly Arg Ser Asp

| | | | | |
|----|---|-----|-----|-----|
| | 50 | 55 | 60 | |
| | Arg Gly Ser Gly Gln Gly Asp Ser Leu Tyr Pro Val Gly Tyr Leu Asp | | | |
| | 65 | 70 | 75 | 80 |
| 5 | Lys Gln Val Pro Asp Thr Ser Val Gln Glu Thr Asp Arg Ile Leu Val | | | |
| | 85 | 90 | 95 | |
| | Glu Lys Arg Cys Trp Asp Ile Ala Leu Gly Pro Leu Lys Gln Ile Pro | | | |
| 10 | 100 | 105 | 110 | |
| | Met Asn Leu Phe Ile Met Tyr Met Ala Gly Asn Thr Ile Ser Ile Phe | | | |
| | 115 | 120 | 125 | |
| 15 | Pro Thr Met Met Val Cys Met Met Ala Trp Arg Pro Ile Gln Ala Leu | | | |
| | 130 | 135 | 140 | |
| | Met Ala Ile Ser Ala Thr Phe Lys Met Leu Glu Ser Ser Ser Gln Lys | | | |
| | 145 | 150 | 155 | 160 |
| 20 | Phe Leu Gln Gly Leu Val Tyr Leu Ile Gly Asn Leu Met Gly Leu Ala | | | |
| | 165 | 170 | 175 | |
| | Leu Ala Val Tyr Lys Cys Gln Ser Met Gly Leu Leu Pro Thr His Ala | | | |
| 25 | 180 | 185 | 190 | |
| | Ser Asp Trp Leu Ala Phe Ile Glu Pro Pro Glu Arg Met Glu Phe Ser | | | |
| | 195 | 200 | 205 | |
| 30 | Gly Gly Gly Leu Leu Leu | | | |
| | 210 | | | |

35 (2) INFORMATION FOR SEQ ID NO: 692:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 46 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 692:

| | | | | |
|----|---|----|----|----|
| | Ala Thr Phe Lys Met Leu Glu Ser Ser Gln Lys Phe Leu Gln Gly | | | |
| | 1 | 5 | 10 | 15 |
| 45 | Leu Val Tyr Leu Ile Gly Asn Leu Met Gly Leu Ala Leu Ala Val Tyr | | | |
| | 20 | 25 | 30 | |
| 50 | Lys Cys Gln Ser Met Gly Leu Leu Pro Thr His Ala Ser Asp | | | |
| | 35 | 40 | 45 | |

55 (2) INFORMATION FOR SEQ ID NO: 693:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 43 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 693:

Pro Val Gly Tyr Leu Asp Lys Gln Val Pro Asp Thr Ser Val Gln Glu
1 5 10 15

5 Thr Asp Arg Ile Leu Val Glu Lys Arg Cys Trp Asp Ile Ala Leu Gly
20 25 30

10 Pro Leu Lys Gln Ile Pro Met Asn Leu Phe Ile
35 40

(2) INFORMATION FOR SEQ ID NO: 694:

15 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 48 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 694:

20 Pro Thr Thr Lys Leu Asp Ile Met Glu Lys Lys Lys His Ile Gln Ile
1 5 10 15

25 Arg Phe Pro Ser Phe Tyr His Lys Leu Val Asp Ser Gly Arg Met Arg
20 25 30

30 Ser Lys Arg Glu Thr Arg Arg Glu Asp Ser Asp Thr Lys His Asn Leu
35 40 45

30

35 (2) INFORMATION FOR SEQ ID NO: 695:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 167 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 695:

40 Thr Glu His Ile Ile Ala Val Met Ile Thr Glu Leu Arg Gly Lys Asp
1 5 10 15

45 Ile Leu Ser Tyr Leu Glu Lys Asn Ile Ser Val Gln Met Thr Ile Ala
20 25 30

50 Val Gly Thr Arg Met Pro Pro Lys Asn Phe Ser Arg Gly Ser Leu Val
35 40 45

Phe Val Ser Ile Ser Phe Ile Val Leu Met Ile Ile Ser Ser Ala Trp
50 55 60

55 Leu Ile Phe Tyr Phe Ile Gln Lys Ile Arg Tyr Thr Asn Ala Arg Asp
65 70 75 80

60 Arg Asn Gln Arg Arg Leu Gly Asp Ala Ala Lys Lys Ala Ile Ser Lys
85 90 95

Leu Thr Thr Arg Thr Val Lys Lys Gly Asp Lys Glu Thr Asp Pro Asp
 100 105 110
 Phe Asp His Cys Ala Val Cys Ile Glu Ser Tyr Lys Gln Asn Asp Val
 5 115 120 125
 Val Arg Ile Leu Pro Cys Lys His Val Phe His Lys Ser Cys Val Asp
 130 135 140
 10 Pro Trp Leu Ser Glu His Cys Thr Cys Pro Met Cys Lys Leu Asn Ile
 145 150 155 160
 Leu Lys Ala Leu Gly Ile Val
 15 165

(2) INFORMATION FOR SEQ ID NO: 696:

20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 276 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 696:
 25 Met Thr His Pro Gly Thr Glu His Ile Ile Ala Val Met Ile Thr Glu
 1 5 10 15
 Leu Arg Gly Lys Asp Ile Leu Ser Tyr Leu Glu Lys Asn Ile Ser Val
 30 20 25 30
 Gln Met Thr Ile Ala Val Gly Thr Arg Met Pro Pro Lys Asn Phe Ser
 35 40 45
 35 Arg Gly Ser Leu Val Phe Val Ser Ile Ser Phe Ile Val Leu Met Ile
 50 55 60
 Ile Ser Ser Ala Trp Leu Ile Phe Tyr Phe Ile Gln Lys Ile Arg Tyr
 65 70 75 80
 40 Thr Asn Ala Arg Asp Arg Asn Gln Arg Arg Leu Gly Asp Ala Ala Lys
 85 90 95
 Lys Ala Ile Ser Lys Leu Thr Thr Arg Thr Val Lys Lys Gly Asp Lys
 45 100 105 110
 Glu Thr Asp Pro Asp Phe Asp His Cys Ala Val Cys Ile Glu Ser Tyr
 115 120 125
 50 Lys Gln Asn Asp Val Val Arg Ile Leu Pro Cys Lys His Val Phe His
 130 135 140
 Lys Ser Cys Val Asp Pro Trp Leu Ser Glu His Cys Thr Cys Pro Met
 55 145 150 155 160
 Cys Lys Leu Asn Ile Leu Lys Ala Leu Gly Ile Val Pro Asn Leu Pro
 165 170 175
 60 Cys Thr Asp Asn Val Ala Phe Asp Met Glu Arg Leu Thr Arg Thr Gln
 180 185 190

Ala Val Asn Arg Arg Ser Ala Leu Gly Asp Leu Ala Gly Asp Asn Ser
195 200 205

5 Leu Gly Leu Glu Pro Leu Arg Thr Ser Gly Ile Ser Pro Leu Pro Gln
210 215 220

Asp Gly Glu Leu Thr Pro Arg Thr Gly Glu Ile Asn Ile Ala Val Thr
225 230 235 240

10 Lys Glu Trp Phe Ile Ile Ala Ser Phe Gly Leu Leu Ser Ala Leu Thr
245 250 255

Leu Cys Tyr Met Ile Ile Arg Ala Thr Ala Ser Leu Asn Ala Asn Glu
15 260 265 270

Val Glu Trp Phe
275

20

(2) INFORMATION FOR SEQ ID NO: 697:

25 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 69 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 697:

30 Thr Glu His Ile Ile Ala Val Met Ile Thr Glu Leu Arg Gly Lys Asp
1 5 10 15

Ile Leu Ser Tyr Leu Glu Lys Asn Ile Ser Val Gln Met Thr Ile Ala
20 25 30

35 Val Gly Thr Arg Met Pro Pro Lys Asn Phe Ser Arg Gly Ser Leu Val
35 40 45

Phe Val Ser Ile Ser Phe Ile Val Met Ile Ile Ser Ser Ala Trp
40 50 55 60

Leu Ile Phe Tyr Phe
65

45

(2) INFORMATION FOR SEQ ID NO: 698:

50 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 58 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 698:

55 Ser Ile Ser Phe Ile Val Leu Met Ile Ile Ser Ser Ala Trp Leu Ile
1 5 10 15

Phe Tyr Phe Ile Gln Lys Ile Arg Tyr Thr Asn Ala Arg Asp Arg Asn
20 25 30

60

700

Gln Arg Arg Leu Gly Asp Ala Ala Lys Lys Ala Ile Ser Lys Leu Thr
 35 40 45

5 Thr Arg Thr Val Lys Lys Gly Asp Lys Glu
 50 55

10 (2) INFORMATION FOR SEQ ID NO: 699:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 66 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 699:

Val Lys Lys Gly Asp Lys Glu Thr Asp Pro Asp Phe Asp His Cys Ala
 1 5 10 15

20 Val Cys Ile Glu Ser Tyr Lys Gln Asn Asp Val Val Arg Ile Leu Pro
 20 25 30

Cys Lys His Val Phe His Lys Ser Cys Val Asp Pro Trp Leu Ser Glu
 35 40 45

25 His Cys Thr Cys Pro Met Cys Lys Leu Asn Ile Leu Lys Ala Leu Gly
 50 55 60

Ile Val
 30 65

35 (2) INFORMATION FOR SEQ ID NO: 700:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 106 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 700:

Met Thr His Pro Gly Thr Glu His Ile Ile Ala Val Met Ile Thr Glu
 1 5 10 15

45 Leu Arg Gly Lys Asp Ile Leu Ser Tyr Leu Glu Lys Asn Ile Ser Val
 20 25 30

Gln Met Thr Ile Ala Val Gly Thr Arg Met Pro Pro Lys Asn Phe Ser
 35 40 45

50 Arg Gly Ser Leu Val Phe Val Ser Ile Ser Phe Ile Val Leu Met Ile
 50 55 60

Ile Ser Ser Ala Trp Leu Ile Phe Tyr Phe Ile Gln Lys Ile Arg Tyr
 55 65 70 75 80

Thr Asn Ala Arg Asp Arg Asn Gln Arg Arg Leu Gly Asp Ala Ala Lys
 85 90 95

60 Lys Ala Ile Ser Lys Leu Thr Thr Arg Thr

701

100 105

5 (2) INFORMATION FOR SEQ ID NO: 701:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 84 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 701:

Ala Ala Lys Lys Ala Ile Ser Lys Leu Thr Thr Arg Thr Val Lys Lys
1 5 10 15

Gly Asp Lys Glu Thr Asp Pro Asp Phe Asp His Cys Ala Val Cys Ile
15 20 25 30

Glu Ser Tyr Lys Gln Asn Asp Val Val Arg Ile Leu Pro Cys Lys His
20 35 40 45

Val Phe His Lys Ser Cys Val Asp Pro Trp Leu Ser Glu His Cys Thr
25 50 55 60

Cys Pro Met Cys Lys Leu Asn Ile Leu Lys Ala Leu Gly Ile Val Pro
65 70 75 80

Asn Leu Pro Cys

30

(2) INFORMATION FOR SEQ ID NO: 702:

35 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 86 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 702:

Thr Gln Ala Val Asn Arg Arg Ser Ala Leu Gly Asp Leu Ala Gly Asp
40 1 5 10 15

Asn Ser Leu Gly Leu Glu Pro Leu Arg Thr Ser Gly Ile Ser Pro Leu
45 20 25 30

Pro Gln Asp Gly Glu Leu Thr Pro Arg Thr Gly Glu Ile Asn Ile Ala
35 40 45

50 Val Thr Lys Glu Trp Phe Ile Ile Ala Ser Phe Gly Leu Leu Ser Ala
50 55 60

Leu Thr Leu Cys Tyr Met Ile Ile Arg Ala Thr Ala Ser Leu Asn Ala
55 65 70 75 80

Asn Glu Val Glu Trp Phe
85

60

2) INFORMATION FOR SEQ ID NO: 703:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 341 amino acids
 - (B) TYPE: amino acid
 - (C) TOPOLOGY: linear

(2) SEQUENCE DESCRIPTION: SEQ ID NO: 703:

Pro Leu His Gly Val Ala Asp His Leu Gly Cys Asp Pro Gln Thr Arg
 10 1 5 10 15

Phe Phe Val Pro Pro Asn Ile Lys Gln Trp Ile Ala Leu Leu Gln Arg
 20 25 30

15 Gly Asn Cys Thr Phe Lys Glu Lys Ile Ser Arg Ala Ala Phe His Asn
 35 40 45

Ala Val Ala Val Val Ile Tyr Asn Asn Lys Ser Lys Glu Glu Pro Val
 50 55 60

20 Thr Met Thr His Pro Gly Thr Glu His Ile Ile Ala Val Met Ile Thr
 65 70 75 80

25 Glu Leu Arg Gly Lys Asp Ile Leu Ser Tyr Leu Glu Lys Asn Ile Ser
 85 90 95

Val Glu Met Thr Ile Ala Val Gly Thr Arg Met Pro Pro Lys Asn Phe
 100 105 110

30 Ser Arg Gly Ser Leu Val Phe Val Ser Ile Ser Phe Ile Val Leu Met
 115 120 125

Ile Ile Ser Ser Ala Trp Leu Ile Phe Tyr Phe Ile Gln Lys Ile Arg
 130 135 140

35 Tyr Thr Asn Ala Arg Asp Arg Asn Gln Arg Arg Leu Gly Asp Ala Ala
 145 150 155 160

40 Lys Lys Ala Ile Ser Lys Leu Thr Thr Arg Thr Val Lys Lys Gly Asp
 165 170 175

Lys Glu Thr Asp Pro Asp Phe Asp His Cys Ala Val Cys Ile Glu Ser
 180 185 190

45 Tyr Lys Glu Asn Asp Val Val Arg Ile Leu Pro Cys Lys His Val Phe
 195 200 205

His Lys Ser Cys Val Asp Pro Trp Leu Ser Glu His Cys Thr Cys Pro
 210 215 220

50 Met Cys Lys Leu Asn Ile Leu Lys Ala Leu Gly Ile Val Pro Asn Leu
 225 230 235 240

55 Pro Cys Thr Asp Asn Val Ala Phe Asp Met Glu Arg Leu Thr Arg Thr
 245 250 255

Glu Ala Val Asn Arg Arg Ser Ala Leu Gly Asp Leu Ala Gly Asp Asn
 260 265 270

60 Ser Leu Gly Leu Glu Pro Leu Arg Thr Ser Gly Ile Ser Pro Leu Pro

703

| | | | |
|----|---|-----|-----|
| | 275 | 280 | 285 |
| | Gln Asp Gly Glu Leu Thr Pro Arg Thr Gly Glu Ile Asn Ile Ala Val | | |
| | 290 | 295 | 300 |
| 5 | Thr Lys Glu Trp Phe Ile Ile Ala Ser Phe Gly Leu Leu Ser Ala Leu | | |
| | 305 | 310 | 315 |
| | 320 | | |
| 10 | Thr Leu Cys Tyr Met Ile Ile Arg Ala Thr Ala Ser Leu Asn Ala Asn | | |
| | 325 | 330 | 335 |
| | Glu Val Glu Trp Phe | | |
| | 340 | | |

15

(2) INFORMATION FOR SEQ ID NO: 704:

| | | | |
|----|---|----|----|
| | (i) SEQUENCE CHARACTERISTICS: | | |
| 20 | (A) LENGTH: 60 amino acids | | |
| | (B) TYPE: amino acid | | |
| | (D) TOPOLOGY: linear | | |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 704: | | |
| 25 | His Gly Val Ala Asp His Leu Gly Cys Asp Pro Gln Thr Arg Phe Phe | | |
| | 1 | 5 | 10 |
| | | | 15 |
| | Val Pro Pro Asn Ile Lys Gln Trp Ile Ala Leu Leu Gln Arg Gly Asn | | |
| | 20 | 25 | 30 |
| 30 | Cys Thr Phe Lys Glu Lys Ile Ser Arg Ala Ala Phe His Asn Ala Val | | |
| | 35 | 40 | 45 |
| | Ala Val Val Ile Tyr Asn Asn Lys Ser Lys Glu Glu | | |
| 35 | 50 | 55 | 60 |

40

(2) INFORMATION FOR SEQ ID NO: 705:

| | | | |
|----|---|----|----|
| | (i) SEQUENCE CHARACTERISTICS: | | |
| 40 | (A) LENGTH: 314 amino acids | | |
| | (B) TYPE: amino acid | | |
| | (D) TOPOLOGY: linear | | |
| 45 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 705: | | |
| | Met Ser Gly Gln Gly Leu Ala Gly Phe Phe Ala Ser Val Ala Met Ile | | |
| | 1 | 5 | 10 |
| | | | 15 |
| 50 | Cys Ala Ile Ala Ser Gly Ser Glu Leu Ser Glu Ser Ala Phe Gly Tyr | | |
| | 20 | 25 | 30 |
| | Phe Ile Thr Ala Cys Ala Val Ile Ile Leu Thr Ile Ile Cys Tyr Leu | | |
| | 35 | 40 | 45 |
| 55 | Gly Leu Pro Arg Leu Glu Phe Tyr Arg Tyr Tyr Gln Gln Leu Lys Leu | | |
| | 50 | 55 | 60 |
| 60 | Glu Gly Pro Gly Glu Gln Glu Thr Lys Leu Asp Leu Ile Ser Lys Gly | | |
| | 65 | 70 | 75 |
| | | | 80 |

Glu Glu Pro Arg Ala Gly Lys Glu Glu Ser Gly Val Ser Val Ser Asn
 85 90 95
 5 Ser Gln Pro Thr Asn Glu Ser His Ser Ile Lys Ala Ile Leu Lys Asn
 100 105 110
 Ile Ser Val Leu Ala Phe Ser Val Cys Phe Ile Phe Thr Ile Thr Ile
 115 120 125
 10 Gly Met Phe Pro Ala Val Thr Val Glu Val Lys Ser Ser Ile Ala Gly
 130 135 140
 Ser Ser Thr Trp Glu Arg Tyr Phe Ile Pro Val Ser Cys Phe Leu Thr
 15 145 150 155 160
 Phe Asn Ile Phe Asp Trp Leu Gly Arg Ser Leu Thr Ala Val Phe Met
 165 170 175
 20 Trp Pro Gly Lys Asp Ser Arg Trp Leu Pro Ser Trp Xaa Leu Ala Arg
 180 185 190
 Leu Val Phe Val Pro Leu Leu Leu Cys Asn Ile Lys Pro Arg Arg
 195 200 205
 25 Tyr Leu Thr Val Val Phe Glu His Asp Ala Trp Phe Ile Phe Phe Met
 210 215 220
 Ala Ala Phe Ala Phe Ser Asn Gly Tyr Leu Ala Ser Leu Cys Met Cys
 30 225 230 235 240
 Phe Gly Pro Lys Lys Val Lys Pro Ala Glu Ala Glu Thr Ala Glu Pro
 245 250 255
 35 Ser Trp Pro Ser Ser Cys Val Trp Val Trp His Trp Gly Leu Phe Ser
 260 265 270
 Pro Ser Cys Ser Gly Gln Leu Cys Asp Lys Gly Trp Thr Glu Gly Leu
 275 280 285
 40 Pro Ala Ser Leu Pro Val Cys Leu Leu Pro Leu Pro Ser Ala Arg Gly
 290 295 300
 Asp Pro Glu Trp Ser Gly Gly Phe Phe Phe
 45 305 310

50 (2) INFORMATION FOR SEQ ID NO: 706:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 106 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 706:
 Met Ser Gly Gln Gly Leu Ala Gly Phe Phe Ala Ser Val Ala Met Ile
 1 5 10 15
 60 Cys Ala Ile Ala Ser Gly Ser Glu Leu Ser Glu Ser Ala Phe Gly Tyr

705

| | | | | |
|----|---|-----|----|----|
| | 20 | 25 | 30 | |
| | Phe Ile Thr Ala Cys Ala Val Ile Ile Leu Thr Ile Ile Cys Tyr Leu | | | |
| | 35 | 40 | 45 | |
| 5 | Gly Leu Pro Arg Leu Glu Phe Tyr Arg Tyr Tyr Gln Gln Leu Lys Leu | | | |
| | 50 | 55 | 60 | |
| | Glu Gly Pro Gly Glu Gln Glu Thr Lys Leu Asp Leu Ile Ser Lys Gly | | | |
| 10 | 65 | 70 | 75 | 80 |
| | Glu Glu Pro Arg Ala Gly Lys Glu Glu Ser Gly Val Ser Val Ser Asn | | | |
| | 85 | 90 | 95 | |
| 15 | Ser Gln Pro Thr Asn Glu Ser His Ser Ile | | | |
| | 100 | 105 | | |

20 (2) INFORMATION FOR SEQ ID NO: 707:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 81 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 707:

| | | | |
|--|----|----|----|
| Ser Gly Val Ser Val Ser Asn Ser Gln Pro Thr Asn Glu Ser His Ser | | | |
| 1 | 5 | 10 | 15 |
| Ile Lys Ala Ile Leu Lys Asn Ile Ser Val Leu Ala Phe Ser, Val Cys | | | |
| 20 | 25 | 30 | |
| Phe Ile Phe Thr Ile Thr Ile Gly Met Phe Pro Ala Val Thr Val Glu | | | |
| 35 | 40 | 45 | |
| Val Lys Ser Ser Ile Ala Gly Ser Ser Thr Trp Glu Arg Tyr Phe Ile | | | |
| 50 | 55 | 60 | |
| Pro Val Ser Cys Phe Leu Thr Phe Asn Ile Phe Asp Trp Leu Gly Arg | | | |
| 65 | 70 | 75 | 80 |
| Ser | | | |

45

(2) INFORMATION FOR SEQ ID NO: 708:

50 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 92 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 708:

| | | | |
|---|----|----|----|
| Thr Ile Gly Met Phe Pro Ala Val Thr Val Glu Val Lys Ser Ser Ile | | | |
| 1 | 5 | 10 | 15 |
| Ala Gly Ser Ser Thr Trp Glu Arg Tyr Phe Ile Pro Val Ser Cys Phe | | | |
| 20 | 25 | 30 | |

Leu Thr Phe Asn Ile Phe Asp Trp Leu Gly Arg Ser Leu Thr Ala Val
 35 40 45

5 Phe Met Trp Pro Gly Lys Asp Ser Arg Trp Leu Pro Ser Trp Xaa Leu
 50 55 60

Ala Arg Leu Val Phe Val Pro Leu Leu Leu Cys Asn Ile Lys Pro
 65 70 75 80

10 Arg Arg Tyr Leu Thr Val Val Phe Glu His Asp Ala
 85 90

15

(2) INFORMATION FOR SEQ ID NO: 709:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 74 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 709:

Phe Gly Pro Lys Lys Val Lys Pro Ala Glu Ala Glu Thr Ala Glu Pro
 25 1 5 10 15

Ser Trp Pro Ser Ser Cys Val Trp Val Trp His Trp Gly Leu Phe Ser
 20 25 30

30 Pro Ser Cys Ser Gly Gln Leu Cys Asp Lys Gly Trp Thr Glu Gly Leu
 35 40 45

Pro Ala Ser Leu Pro Val Cys Leu Leu Pro Leu Pro Ser Ala Arg Gly
 50 55 60

35 Asp Pro Glu Trp Ser Gly Gly Phe Phe Phe
 65 70

40

(2) INFORMATION FOR SEQ ID NO: 710:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 135 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 710:

Asp Asp Asp Gly Phe Glu Ile Val Pro Ile Glu Asp Pro Ala Lys His
 50 1 5 10 15

Arg Ile Leu Asp Pro Glu Gly Leu Ala Leu Gly Ala Val Ile Ala Ser
 20 25 30

55 Ser Lys Lys Ala Lys Arg Asp Leu Ile Asp Asn Ser Phe Asn Arg Tyr
 35 40 45

Thr Phe Asn Glu Asp Glu Gly Glu Leu Pro Glu Trp Phe Val Gln Glu
 50 55 60

60

| | | | | |
|----|---|-----|-----|----|
| | Glu Lys Gln His Arg Ile Arg Gln Leu Pro Val Gly Lys Lys Glu Val | | | |
| | 65 | 70 | 75 | 80 |
| 5 | Glu His Tyr Arg Lys Arg Trp Arg Glu Ile Asn Ala Arg Pro Ile Xaa | | | |
| | 85 | 90 | 95 | |
| | Xaa | | | |
| | 100 | 105 | 110 | |
| 10 | Leu Glu Gln Thr Arg Lys Lys Ala Glu Ala Val Val Asn Thr Val Asp | | | |
| | 115 | 120 | 125 | |
| | Ile Xaa Arg Thr Arg Glu Ser | | | |
| | 130 | 135 | | |
| 15 | | | | |

(2) INFORMATION FOR SEQ ID NO: 711:

| | | | | |
|----|---|----|----|----|
| 20 | (i) SEQUENCE CHARACTERISTICS: | | | |
| | (A) LENGTH: 50 amino acids | | | |
| | (B) TYPE: amino acid | | | |
| | (D) TOPOLOGY: linear | | | |
| 25 | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 711: | | | |
| | Asp Asp Asp Gly Phe Glu Ile Val Pro Ile Glu Asp Pro Ala Lys His | | | |
| | 1 | 5 | 10 | 15 |
| 30 | Arg Ile Leu Asp Pro Glu Gly Leu Ala Leu Gly Ala Val Ile Ala Ser | | | |
| | 20 | 25 | 30 | |
| | Ser Lys Lys Ala Lys Arg Asp Leu Ile Asp Asn Ser Phe Asn Arg Tyr | | | |
| | 35 | 40 | 45 | |
| 35 | Thr Phe | | | |
| | 50 | | | |

(2) INFORMATION FOR SEQ ID NO: 712:

| | | | | |
|----|---|----|----|----|
| 40 | (i) SEQUENCE CHARACTERISTICS: | | | |
| | (A) LENGTH: 51 amino acids | | | |
| | (B) TYPE: amino acid | | | |
| 45 | (D) TOPOLOGY: linear | | | |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 712: | | | |
| | Lys Arg Trp Arg Glu Ile Asn Ala Arg Pro Ile Xaa Xaa Xaa Xaa Xaa | | | |
| | 1 | 5 | 10 | 15 |
| 50 | Xaa Leu Glu Gln Thr | | | |
| | 20 | 25 | 30 | |
| 55 | Arg Lys Lys Ala Glu Ala Val Val Asn Thr Val Asp Ile Xaa Arg Thr | | | |
| | 35 | 40 | 45 | |
| | Arg Glu Ser | | | |
| | 50 | | | |
| 60 | | | | |

(2) INFORMATION FOR SEQ ID NO: 713:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 216 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 713:

10 Met Ile Lys Asp Lys Gly Arg Ala Arg Thr Ala Leu Thr Ser Ser Gln
1 5 10 15

Pro Ala His Leu Cys Pro Glu Asn Pro Leu Leu His Leu Lys Ala Ala
20 25 30

15 Val Lys Glu Lys Lys Arg Asn Lys Lys Lys Lys Thr Ile Gly Ser Pro
 35 40 45

20 Lys Arg Ile Gln Ser Pro Leu Asn Asn Lys Leu Leu Asn Ser Pro Ala
50 55 60

Lys Thr Leu Pro Gly Ala Cys Gly Ser Pro Gln Lys Leu Ile Asp Gly
65 70 75 80

Ser Ala Ser Thr Ser Gly Val Pro Gly Leu Ser Ser Leu Gln Ser Asp
100 105 110

30 Pro Ala Gly Cys Val Arg Pro Pro Ala Pro Asn Leu Ala Gly Ala Val
 115 120 125

35 Glu Phe Asn Asp Val Lys Thr Leu Leu Arg Glu Trp Ile Thr Thr Ile
 130 135 140

Ser Asp Pro Met Glu Glu Asp Ile Leu Gln Val Val Lys Tyr Cys Thr
145 150 155 160

40 Asp Leu Ile Glu Glu Lys Asp Leu Glu Lys Leu Asp Leu Val Ile Lys
165 170 175

Tyr Met Lys Arg Leu Met Gln Gln Ser Val Glu Ser Val Trp Asn Met
180 185 190

Ala Phe Asp Phe Ile Leu Asp Asn Val Gln Val Val Leu Gln Gln Thr
195 200 205

Tyr Gly Ser Thr Leu Lys Val Thr
210 215

(2) INFORMATION FOR SEQ ID NO: 714:

55

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 52 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear

60 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 714:

Met Ile Lys Asp Lys Gly Arg Ala Arg Thr Ala Leu Thr Ser Ser Gln
 1 5 10 15

5 Pro Ala His Leu Cys Pro Glu Asn Pro Leu Leu His Leu Lys Ala Ala
 20 25 30

Val Lys Glu Lys Lys Arg Asn Lys Lys Lys Lys Thr Ile Gly Ser Pro
 35 40 45

10 Lys Arg Ile Gln
 50

15

(2) INFORMATION FOR SEQ ID NO: 715:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 100 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 715:

Lys Arg Ile Gln Ser Pro Leu Asn Asn Lys Leu Leu Asn Ser Pro Ala
 25 1 5 10 15

Lys Thr Leu Pro Gly Ala Cys Gly Ser Pro Gln Lys Leu Ile Asp Gly
 20 25 30

30 Phe Leu Lys His Glu Gly Pro Pro Ala Glu Lys Pro Leu Glu Glu Leu
 35 40 45

Ser Ala Ser Thr Ser Gly Val Pro Gly Leu Ser Ser Leu Gln Ser Asp
 50 55 60

35 Pro Ala Gly Cys Val Arg Pro Pro Ala Pro Asn Leu Ala Gly Ala Val
 65 70 75 80

40 Glu Phe Asn Asp Val Lys Thr Leu Leu Arg Glu Trp Ile Thr Thr Ile
 85 90 95

Ser Asp Pro Met
 100

45

(2) INFORMATION FOR SEQ ID NO: 716:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 74 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 716:

55 Thr Ile Ser Asp Pro Met Glu Glu Asp Ile Leu Gln Val Val Lys Tyr
 1 5 10 15

Cys Thr Asp Leu Ile Glu Glu Lys Asp Leu Glu Lys Leu Asp Leu Val
 20 25 30

60

710

Ile Lys Tyr Met Lys Arg Leu Met Gln Gln Ser Val Glu Ser Val Trp
35 40 45

Asn Met Ala Phe Asp Phe Ile Leu Asp Asn Val Gln Val Val Leu Gln
5 50 55 60

Gln Thr Tyr Gly Ser Thr Leu Lys Val Thr
65 70

10

(2) INFORMATION FOR SEQ ID NO: 717:

(i) SEQUENCE CHARACTERISTICS:
15 (A) LENGTH: 18 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 717:

Phe Cys His Asp Cys Lys Phe Pro Glu Ala Ser Pro Ala Met Asn Cys
20 1 5 10 15

Glu Pro

25

(2) INFORMATION FOR SEQ ID NO: 718:

30 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 718:

Phe Cys His Asp Cys Lys Phe Pro Glu Ala Ser Pro Ala Met Asn Cys
35 1 5 10 15

Glu Pro

40

(2) INFORMATION FOR SEQ ID NO: 719:

45 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 27 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 719:

Pro Gln Pro Ser Asn Phe Pro Thr Thr Val Arg Asn Leu Pro Tyr Ser
1 5 10 15

Gly Ala Gly Ala Gln Pro Pro Pro Ser Asn Cys
55 20 25

60 (2) INFORMATION FOR SEQ ID NO: 720:

711

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 134 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 720:

Met Ala Ser Ser Val Pro Ala Gly Gly His Thr Arg Ala Gly Gly Ile
1 5 10 15

10 Phe Leu Ile Gly Lys Leu Asp Leu Glu Ala Ser Leu Phe Lys Ser Phe
20 25 30

Gln Trp Leu Pro Phe Val Leu Arg Lys Lys Cys Asn Phe Phe Cys Trp
15 35 40 45

Asp Ser Ser Ala His Ser Leu Pro Leu His Pro Leu Ser Ala Ser Cys
50 55 60

20 Ser Ala Pro Ala Cys His Ala Ser Asp Thr His Leu Leu Tyr Pro Ser
65 70 75 80

Thr Arg Ala Leu Cys Pro Ser Ile Phe Ala Trp Leu Val Ala Pro His
85 90 95

25 Ser Val Phe Arg Thr Asn Ala Pro Gly Pro Thr Pro Ser Ser Gln Ser
100 105 110

30 Ser Pro Val Phe Pro Val Phe Pro Val Ser Phe Met Ala Leu Ile Val
115 120 125

Cys Xaa Leu Val Cys Cys
130

35

(2) INFORMATION FOR SEQ ID NO: 721:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 71 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 721:

45 Met Ala Ser Ser Val Pro Ala Gly Gly His Thr Arg Ala Gly Gly Ile
1 5 10 15

Phe Leu Ile Gly Lys Leu Asp Leu Glu Ala Ser Leu Phe Lys Ser Phe
20 25 30

50 Gln Trp Leu Pro Phe Val Leu Arg Lys Lys Cys Asn Phe Phe Cys Trp
35 40 45

Asp Ser Ser Ala His Ser Leu Pro Leu His Pro Leu Ser Ala Ser Cys
55 50 55 60

Ser Ala Pro Ala Cys His Ala
65 70

60

(2) INFORMATION FOR SEQ ID NO: 722:

(i) SEQUENCE CHARACTERISTICS:

- 5 (A) LENGTH: 46 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 722:

10 Phe Ala Trp Leu Val Ala Pro His Ser Val Phe Arg Thr Asn Ala Pro
 1 5 10 15

 Gly Pro Thr Pro Ser Ser Gln Ser Ser Pro Val Phe Pro Val Phe Pro
 20 25 30
15 Val Ser Phe Met Ala Leu Ile Val Cys Xaa Leu Val Cys Cys
 35 40 45

20 (2) INFORMATION FOR SEQ ID NO: 723:

(i) SEQUENCE CHARACTERISTICS:

- 25 (A) LENGTH: 134 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 723:

30 Met Ala Ser Ser Val Pro Ala Gly Gly His Thr Arg Ala Gly Gly Ile
 1 5 10 15

 Phe Leu Ile Gly Lys Leu Asp Leu Glu Ala Ser Leu Phe Lys Ser Phe
 20 25 30
35 Gln Trp Leu Pro Phe Val Leu Arg Lys Lys Cys Asn Phe Phe Cys Trp
 35 40 45

 Asp Ser Ser Ala His Ser Leu Pro Leu His Pro Leu Ser Ala Ser Cys
 50 55 60
40 Ser Ala Pro Ala Cys His Ala Ser Asp Thr His Leu Leu Tyr Pro Ser
 65 70 75 80

 Thr Arg Ala Leu Cys Pro Ser Ile Phe Ala Trp Leu Val Ala Pro His
 85 90 95

 Ser Val Phe Arg Thr Asn Ala Pro Gly Pro Thr Pro Ser Ser Gln Ser
 100 105 110
45 Ser Pro Val Phe Pro Val Phe Pro Val Ser Phe Met Ala Leu Ile Val
 115 120 125

 Cys Xaa Leu Val Cys Cys
 130
55

(2) INFORMATION FOR SEQ ID NO: 724:

60 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 286 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 724:

5

| | | | |
|---|---------------------|----|----|
| Met Ala Met Glu Gly Tyr Trp Arg Phe Leu Ala | Leu Leu Gly Ser Ala | | |
| 1 | 5 | 10 | 15 |

10

| | | |
|---|---------------------|----|
| Leu Leu Val Gly Phe Leu Ser Val Ile Phe Ala | Leu Val Trp Val Leu | |
| 20 | 25 | 30 |

| | | |
|---|-----------------|----|
| His Tyr Arg Glu Gly Leu Gly Trp Asp Gly Ser Ala | Leu Glu Phe Asn | |
| 35 | 40 | 45 |

15

| | | |
|---|---------------------|----|
| Trp His Pro Val Leu Met Val Thr Gly Phe Val | Phe Ile Gln Gly Ile | |
| 50 | 55 | 60 |

| | | | |
|---|-----------------|----|----|
| Ala Ile Ile Val Tyr Arg Leu Pro Trp Thr Trp Lys | Cys Ser Lys Leu | | |
| 65 | 70 | 75 | 80 |

20

| | | |
|---|---------------------|----|
| Leu Met Lys Ser Ile His Ala Gly Leu Asn Ala | Val Ala Ala Ile Leu | |
| 85 | 90 | 95 |

25

| | | |
|---|-----------------|-----|
| Ala Ile Ile Ser Val Val Ala Val Phe Glu Asn His | Asn Val Asn Asn | |
| 100 | 105 | 110 |

| | | |
|---|---------------------|-----|
| Ile Ala Asn Met Tyr Ser Leu His Ser Trp Val | Gly Leu Ile Ala Val | |
| 115 | 120 | 125 |

30

| | | |
|---|-----------------|-----|
| Ile Cys Tyr Leu Leu Gln Leu Leu Ser Gly Phe Ser | Val Phe Leu Leu | |
| 130 | 135 | 140 |

| | | | |
|---|-----------------|-----|-----|
| Pro Trp Ala Pro Leu Ser Leu Arg Ala Phe Leu Met | Pro Ile His Val | | |
| 145 | 150 | 155 | 160 |

35

| | | |
|---|-----------------|-----|
| Tyr Ser Gly Ile Val Ile Phe Gly Thr Val Ile Ala | Thr Ala Leu Met | |
| 165 | 170 | 175 |

40

| | | |
|---|-----------------|-----|
| Gly Leu Thr Glu Lys Leu Ile Phe Ser Leu Arg Asp | Pro Ala Tyr Ser | |
| 180 | 185 | 190 |

| | | |
|---|-----------------|-----|
| Thr Phe Pro Pro Glu Gly Val Phe Val Asn Thr Leu | Gly Leu Leu Ile | |
| 195 | 200 | 205 |

45

| | | |
|---|-----------------|-----|
| Leu Val Phe Gly Ala Leu Ile Phe Trp Ile Val Thr | Arg Pro Gln Trp | |
| 210 | 215 | 220 |

| | | | |
|---|-----------------|-----|-----|
| Lys Arg Pro Lys Glu Pro Asn Ser Thr Ile Leu His | Pro Asn Gly Gly | | |
| 225 | 230 | 235 | 240 |

50

| | | |
|---|---------------------|-----|
| Thr Glu Gln Gly Ala Arg Gly Ser Met Pro Ala | Tyr Ser Gly Asn Asn | |
| 245 | 250 | 255 |

55

| | | |
|---|-----------------|-----|
| Met Asp Lys Ser Asp Ser Glu Leu Asn Ser Glu Val | Ala Ala Arg Lys | |
| 260 | 265 | 270 |

| | | |
|---|---------|-----|
| Arg Asn Leu Ala Leu Asp Glu Ala Gly Gln Arg Ser | Thr Met | |
| 275 | 280 | 285 |

(2) INFORMATION FOR SEQ ID NO: 725:

(i) SEQUENCE CHARACTERISTICS:

- 5 (A) LENGTH: 43 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 725:

10 Pro Gly Arg Ala Gly Pro Ser Pro Gly Leu Ser Leu Gln Leu Pro Ala
 1 5 10 15

 Glu Pro Gly His Pro Ala Gly Asn Leu Ala Pro Leu Thr Ser Arg Pro
 20 25 30

 15 Gln Pro Leu Cys Arg Ile Pro Ala Val Pro Gly
 35 40

20 (2) INFORMATION FOR SEQ ID NO: 726:

(i) SEQUENCE CHARACTERISTICS:

- 25 (A) LENGTH: 424 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 726:

30 Met Lys Leu Leu Gly Glu Cys Ser Ser Ser Ile Asp Ser Val Lys Arg
 1 5 10 15

 Leu Glu His Lys Leu Lys Glu Glu Glu Glu Ser Leu Pro Gly Phe Val
 20 25 30

 35 Asn Leu His Ser Thr Glu Thr Gln Thr Ala Gly Val Ile Asp Arg Trp
 35 40 45

 Glu Leu Leu Gln Ala Gln Ala Leu Ser Lys Glu Leu Arg Met Lys Gln
 50 55 60

 40 Asn Leu Gln Lys Trp Gln Gln Phe Asn Ser Asp Leu Asn Ser Ile Trp
 65 70 75 80

 45 Ala Trp Leu Gly Asp Thr Glu Glu Leu Glu Gln Leu Gln Arg Leu
 85 90 95

 Glu Leu Ser Thr Asp Ile Gln Thr Ile Glu Leu Gln Ile Lys Lys Leu
 100 105 110

 50 Lys Glu Leu Gln Lys Ala Val Asp His Arg Lys Ala Ile Ile Leu Ser
 115 120 125

 Ile Asn Leu Cys Ser Pro Glu Phe Thr Gln Ala Asp Ser Lys Glu Ser
 130 135 140

 55 Arg Asp Leu Gln Asp Arg Leu Xaa Gln Met Asn Gly Arg Trp Asp Arg
 145 150 155 160

 60 Val Cys Ser Leu Leu Glu Glu Trp Arg Gly Leu Leu Gln Asp Ala Leu
 165 170 175

Met Gln Cys Gln Gly Phe His Glu Met Ser His Gly Leu Leu Leu Met
 180 185 190

5 Leu Glu Asn Ile Asp Arg Arg Lys Asn Glu Ile Val Pro Ile Asp Ser
 195 200 205

Asn Leu Asp Ala Glu Ile Leu Gln Asp His His Lys Gln Leu Met Gln
 210 215 220

10 Ile Lys His Glu Leu Leu Glu Ser Gln Leu Arg Val Ala Ser Leu Gln
 225 230 235 240

Asp Met Ser Cys Gln Leu Leu Val Asn Ala Glu Gly Thr Asp Cys Leu
 15 245 250 255

Glu Ala Lys Glu Lys Val His Val Ile Gly Asn Arg Leu Lys Leu Leu
 260 265 270

20 Leu Lys Glu Val Ser Arg His Ile Lys Glu Leu Glu Lys Leu Leu Asp
 275 280 285

Val Ser Ser Ser Gln Gln Asp Leu Ser Ser Trp Ser Ser Ala Asp Glu
 290 295 300

25 Leu Asp Thr Ser Gly Ser Val Ser Pro Xaa Ser Gly Arg Ser Thr Pro
 305 310 315 320

Asn Arg Gln Lys Thr Pro Arg Gly Lys Cys Ser Leu Ser Gln Pro Gly
 30 325 330 335

Pro Ser Val Ser Ser Pro His Ser Arg Ser Thr Lys Gly Gly Ser Asp
 340 345 350

35 Ser Ser Leu Ser Glu Pro Xaa Pro Gly Arg Ser Gly Arg Gly Phe Leu
 355 360 365

Phe Arg Val Leu Arg Ala Ala Leu Pro Leu Gln Leu Leu Leu Leu
 370 375 380

40 Leu Ile Gly Leu Ala Cys Leu Val Pro Met Ser Glu Glu Asp Tyr Ser
 385 390 395 400

Cys Ala Leu Ser Asn Asn Phe Ala Arg Ser Phe His Pro Met Leu Arg
 45 405 410 415

Tyr Thr Asn Gly Pro Pro Pro Leu
 420

50

(2) INFORMATION FOR SEQ ID NO: 727:

55 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 110 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 727:

60 Met Lys Leu Leu Gly Glu Cys Ser Ser Ser Ile Asp Ser Val Lys Arg

| | | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 1 | | 5 | | 10 | | 15 | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | Leu | Glu | His | Lys | Leu | Lys | Glu | Glu | Glu | Glu | Ser | Leu | Pro | Gly | Phe | Val |
| | | | | | 20 | | | 25 | | | | | 30 | | | |
| 5 | | | | | | | | | | | | | | | | |
| | Asn | Leu | His | Ser | Thr | Glu | Thr | Gln | Thr | Ala | Gly | Val | Ile | Asp | Arg | Trp |
| | | | | | 35 | | | 40 | | | | | 45 | | | |
| 10 | | | | | | | | | | | | | | | | |
| | Glu | Leu | Leu | Gln | Ala | Gln | Ala | Leu | Ser | Lys | Glu | Leu | Arg | Met | Lys | Gln |
| | | | | | 50 | | | 55 | | | | 60 | | | | |
| | | | | | | | | | | | | | | | | |
| | Asn | Leu | Gln | Lys | Trp | Gln | Gln | Phe | Asn | Ser | Asp | Leu | Asn | Ser | Ile | Trp |
| | | | | | 65 | | | 70 | | | | 75 | | | 80 | |
| 15 | | | | | | | | | | | | | | | | |
| | Ala | Trp | Leu | Gly | Asp | Thr | Glu | Glu | Glu | Leu | Glu | Gln | Leu | Gln | Arg | Leu |
| | | | | | 85 | | | 90 | | | | 95 | | | | |
| | | | | | | | | | | | | | | | | |
| | Glu | Leu | Ser | Thr | Asp | Ile | Gln | Thr | Ile | Glu | Leu | Gln | Ile | Lys | | |
| | | | | | 100 | | | 105 | | | | 110 | | | | |
| 20 | | | | | | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO: 728:

| | | | | | | | | | | | | | | | | |
|----|----|---|-----|---|-----|----|-----|----|----|--|--|--|--|--|--|--|
| | 25 | (i) SEQUENCE CHARACTERISTICS: | | | | | | | | | | | | | | |
| | | (A) LENGTH: 136 amino acids | | | | | | | | | | | | | | |
| | | (B) TYPE: amino acid | | | | | | | | | | | | | | |
| | | (D) TOPOLOGY: linear | | | | | | | | | | | | | | |
| | | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 728: | | | | | | | | | | | | | | |
| 30 | | Lys Leu Lys Glu Leu Gln Lys Ala Val Asp His Arg Lys Ala Ile Ile | | | | | | | | | | | | | | |
| | | 1 | | 5 | | 10 | | 15 | | | | | | | | |
| 35 | | Leu Ser Ile Asn Leu Cys Ser Pro Glu Phe Thr Gln Ala Asp Ser Lys | | | | | | | | | | | | | | |
| | | | 20 | | 25 | | 30 | | | | | | | | | |
| 40 | | Glu Ser Arg Asp Leu Gln Asp Arg Leu Xaa Gln Met Asn Gly Arg Trp | | | | | | | | | | | | | | |
| | | | 35 | | 40 | | 45 | | | | | | | | | |
| 45 | | Asp Arg Val Cys Ser Leu Leu Glu Glu Trp Arg Gly Leu Leu Gln Asp | | | | | | | | | | | | | | |
| | | | 50 | | 55 | | 60 | | | | | | | | | |
| | | Ala Leu Met Gln Cys Gln Gly Phe His Glu Met Ser His Gly Leu Leu | | | | | | | | | | | | | | |
| | | | 65 | | 70 | | 75 | | 80 | | | | | | | |
| 50 | | Leu Met Leu Glu Asn Ile Asp Arg Arg Lys Asn Glu Ile Val Pro Ile | | | | | | | | | | | | | | |
| | | | 85 | | 90 | | 95 | | | | | | | | | |
| 55 | | Asp Ser Asn Leu Asp Ala Glu Ile Leu Gln Asp His His Lys Gln Leu | | | | | | | | | | | | | | |
| | | | 100 | | 105 | | 110 | | | | | | | | | |
| | | Met Gln Ile Lys His Glu Leu Leu Glu Ser Gln Leu Arg Val Ala Ser | | | | | | | | | | | | | | |
| | | | 115 | | 120 | | 125 | | | | | | | | | |
| 60 | | Leu Gln Asp Met Ser Cys Gln Leu | | | | | | | | | | | | | | |
| | | | 130 | | 135 | | | | | | | | | | | |

(2) INFORMATION FOR SEQ ID NO: 729:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 105 amino acids

(B) TYPE: amino acid

5 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 729:

Gln Asp Met Ser Cys Gln Leu Leu Val Asn Ala Glu Gly Thr Asp Cys
1 5 10 15

10 Leu Glu Ala Lys Glu Lys Val His Val Ile Gly Asn Arg Leu Lys Leu
20 25 30

15 Leu Leu Lys Glu Val Ser Arg His Ile Lys Glu Leu Glu Lys Leu Leu
35 40 45

Asp Val Ser Ser Ser Gln Gln Asp Leu Ser Ser Trp Ser Ser Ala Asp
50 55 60

20 Glu Leu Asp Thr Ser Gly Ser Val Ser Pro Xaa Ser Gly Arg Ser Thr
65 70 75 80

25 Pro Asn Arg Gln Lys Thr Pro Arg Gly Lys Cys Ser Leu Ser Gln Pro
85 90 95

Gly Pro Ser Val Ser Ser Pro His Ser
100 105

30 (2) INFORMATION FOR SEQ ID NO: 730:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 73 amino acids

35 (B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 730:

40 Asp Ser Ser Leu Ser Glu Pro Xaa Pro Gly Arg Ser Gly Arg Gly Phe
1 5 10 15

Leu Phe Arg Val Leu Arg Ala Ala Leu Pro Leu Gln Leu Leu Leu Leu
20 25 30

45 Leu Leu Ile Gly Leu Ala Cys Leu Val Pro Met Ser Glu Glu Asp Tyr
35 40 45

50 Ser Cys Ala Leu Ser Asn Asn Phe Ala Arg Ser Phe His Pro Met Leu
50 55 60

Arg Tyr Thr Asn Gly Pro Pro Pro Leu
65 70

55 (2) INFORMATION FOR SEQ ID NO: 731:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 56 amino acids

60 (B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 731:

| | |
|----|---|
| | Met Lys Leu Leu Ile Cys Gly Asn Tyr Leu Ala Pro Ser His Ser Glu |
| 5 | 1 5 10 15 |
| | Ser Ser Arg Arg Cys Cys Leu Leu Cys Phe Tyr Pro Leu Cys Leu Glu |
| | 20 25 30 |
| 10 | Ile Asn Phe Gly Met Lys Val Phe Leu Ser Met Pro Phe Leu Val Leu |
| | 35 40 45 |
| | Phe Gln Ser Leu Ile Gln Glu Asp |
| | 50 55 |
| 15 | |

(2) INFORMATION FOR SEQ ID NO: 732:

| | |
|----|---|
| 20 | (i) SEQUENCE CHARACTERISTICS: |
| | (A) LENGTH: 271 amino acids |
| | (B) TYPE: amino acid |
| | (D) TOPOLOGY: linear |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 732: |
| 25 | Arg Ile Leu Leu Val Lys Tyr Ser Ala Asn Glu Glu Asn Lys Tyr Asp |
| | 1 5 10 15 |
| 30 | Tyr Leu Pro Thr Thr Val Asn Val Cys Ser Glu Leu Val Lys Leu Val |
| | 20 25 30 |
| | Phe Cys Val Leu Val Ser Phe Cys Val Ile Lys Lys Asp His Gln Ser |
| | 35 40 45 |
| 35 | Arg Asn Leu Lys Tyr Ala Ser Trp Lys Glu Phe Ser Asp Phe Met Lys |
| | 50 55 60 |
| | Trp Ser Ile Pro Ala Phe Leu Tyr Phe Leu Asp Asn Leu Ile Val Phe |
| | 65 70 75 80 |
| 40 | Tyr Val Leu Ser Tyr Leu Gln Pro Ala Met Ala Val Ile Phe Ser Asn |
| | 85 90 95 |
| 45 | Phe Ser Ile Ile Thr Thr Ala Leu Leu Phe Arg Ile Val Leu Lys Xaa |
| | 100 105 110 |
| | Arg Leu Asn Trp Ile Gln Trp Ala Ser Leu Leu Thr Leu Phe Leu Ser |
| | 115 120 125 |
| 50 | Ile Val Ala Leu Thr Ala Gly Thr Lys Thr Leu Gln His Asn Leu Ala |
| | 130 135 140 |
| | Gly Arg Gly Phe His His Asp Ala Phe Phe Ser Pro Ser Asn Ser Cys |
| | 145 150 155 160 |
| 55 | Leu Leu Phe Arg Asn Glu Cys Pro Arg Lys Asp Asn Cys Thr Ala Lys |
| | 165 170 175 |
| 60 | Glu Trp Thr Phe Pro Glu Ala Lys Trp Asn Thr Thr Ala Arg Val Phe |
| | 180 185 190 |

Ser His Ile Arg Leu Gly Met Gly His Val Leu Ile Ile Val Gln Cys
 195 200 205
 5 Phe Ile Ser Ser Met Ala Asn Ile Tyr Asn Glu Lys Ile Leu Lys Glu
 210 215 220
 Gly Asn Gln Leu Thr Glu Xaa Ile Phe Ile Gln Asn Ser Lys Leu Tyr
 225 230 235 240
 10 Phe Phe Gly Ile Leu Phe Asn Gly Leu Thr Leu Gly Leu Gln Arg Ser
 245 250 255
 Asn Arg Asp Gln Ile Lys Asn Cys Gly Phe Phe Tyr Gly His Ser
 15 260 265 270

20 (2) INFORMATION FOR SEQ ID NO: 733:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 94 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 733:
 Asn Ser Val Pro Asn Leu Gln Thr Leu Ala Val Leu Thr Glu Ala Ile
 1 5 10 15
 30 Gly Pro Glu Pro Ala Ile Pro Arg Xaa Pro Arg Glu Pro Pro Val Ala
 20 25 30
 Thr Ser Thr Pro Ala Thr Pro Ser Ala Gly Pro Gln Pro Leu Pro Thr
 35 40 45
 35 Gly Thr Val Leu Val Pro Gly Gly Pro Ala Pro Pro Cys Leu Gly Glu
 50 55 60
 40 Ala Trp Ala Leu Leu Leu Pro Pro Cys Arg Pro Ser Leu Thr Ser Cys
 65 70 75 80
 Phe Trp Ser Pro Arg Pro Ser Pro Trp Lys Glu Thr Gly Val
 85 90
 45

(2) INFORMATION FOR SEQ ID NO: 734:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 40 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 734:
 55 Ala Leu Gln Leu Ala Phe Tyr Pro Asp Ala Val Glu Glu Trp Leu Glu
 1 5 10 15
 60 Glu Asn Val His Pro Ser Leu Gln Arg Leu Gln Xaa Leu Leu Gln Asp
 20 25 30

720

Leu Ser Glu Val Ser Ala Pro Pro
35 40

5

(2) INFORMATION FOR SEQ ID NO: 735:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 30 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 735:

15 Cys His Pro Pro Ala Leu Ala Gly Thr Leu Leu Arg Thr Pro Glu Gly
1 5 10 15

Arg Ala His Ala Arg Gly Leu Leu Leu Glu Ala Gly Gly Ala
20 25 30

20

(2) INFORMATION FOR SEQ ID NO: 736:

(i) SEQUENCE CHARACTERISTICS:

- 25 (A) LENGTH: 59 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 736:

30 Gly Ser Ser Ser Thr Arg Ser Trp Phe Ser Thr Ser Ser Pro Gln Arg
1 5 10 15

Ser Ala Ser Trp His Ser Gly Ala Pro Ser Cys Arg Ser Trp Arg Leu
20 25 30

35

Pro Cys Ser Trp Leu Ser Thr Arg Met Pro Trp Arg Ser Gly Trp Arg
35 40 45

40

Lys Thr Cys Thr Pro Ala Cys Ser Gly Cys Lys
50 55

45

(2) INFORMATION FOR SEQ ID NO: 737:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 247 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
- 50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 737:

Met Arg Pro Asp Trp Lys Ala Gly Ala Gly Pro Gly Gly Pro Pro Gln
1 5 10 15

55 Lys Pro Ala Pro Ser Ser Gln Arg Lys Pro Pro Ala Arg Pro Ser Ala
20 25 30

Ala Ala Ala Ala Ile Ala Val Ala Ala Glu Glu Glu Arg Arg Leu
35 40 45

60

Arg Gln Arg Asn Arg Leu Arg Leu Glu Glu Asp Lys Pro Ala Val Glu
 50 55 60

5 Arg Cys Leu Glu Glu Leu Val Phe Gly Asp Val Glu Asn Asp Glu Asp
 65 70 75 80

Ala Leu Leu Arg Arg Leu Arg Gly Pro Arg Val Gln Glu His Glu Asp
 85 90 95

10 Ser Gly Asp Ser Glu Val Glu Asn Glu Ala Lys Gly Asn Phe Pro Pro
 100 105 110

Gln Lys Lys Pro Val Trp Val Asp Glu Glu Asp Glu Asp Glu Glu Met
 115 120 125

15 Val Asp Met Met Asn Asn Arg Phe Arg Lys Asp Met Met Lys Asn Ala
 130 135 140

20 Ser Glu Ser Lys Leu Ser Lys Asp Asn Leu Lys Lys Arg Leu Lys Glu
 145 150 155 160

Glu Phe Gln His Ala Met Gly Gly Val Pro Ala Trp Ala Glu Thr Thr
 165 170 175

25 Lys Arg Lys Thr Ser Ser Asp Asp Glu Ser Glu Glu Asp Glu Asp Asp
 180 185 190

Leu Leu Gln Arg Thr Gly Asn Phe Ile Ser Thr Ser Thr Ser Leu Pro
 195 200 205

30 Arg Gly Ile Leu Lys Met Lys Asn Cys Gln His Ala Asn Ala Glu Arg
 210 215 220

35 Pro Thr Val Ala Arg Ile Ser Ile Cys Ala Val Pro Ser Arg Cys Thr
 225 230 235 240

Asp Cys Asp Gly Cys Trp Asp
 245

40

(2) INFORMATION FOR SEQ ID NO: 738:

(i) SEQUENCE CHARACTERISTICS:

45 (A) LENGTH: 180 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO.: 738:

50 Cys Leu Glu Glu Leu Val Phe Gly Asp Val Glu Asn Asp Glu Asp Ala
 1 5 10 15

Leu Leu Arg Arg Leu Arg Gly Pro Arg Val Gln Glu His Glu Asp Ser
 20 25 30

55 Gly Asp Ser Glu Val Glu Asn Glu Ala Lys Gly Asn Phe Pro Pro Gln
 35 40 45

60 Lys Lys Pro Val Trp Val Asp Glu Glu Asp Glu Asp Glu Glu Met Val
 50 55 60

Asp Met Met Asn Asn Arg Phe Arg Lys Asp Met Met Lys Asn Ala Ser
 65 70 75 80

5 Glu Ser Lys Leu Ser Lys Asp Asn Leu Lys Lys Arg Leu Lys Glu Glu
 85 90 95

Phe Gln His Ala Met Gly Gly Val Pro Ala Trp Ala Glu Thr Thr Lys
 100 105 110

10 Arg Lys Thr Ser Ser Asp Asp Glu Ser Glu Glu Asp Glu Asp Asp Leu
 115 120 125

Leu Gln Arg Thr Gly Asn Phe Ile Ser Thr Ser Thr Ser Leu Pro Arg
 15 130 135 140

Gly Ile Leu Lys Met Lys Asn Cys Gln His Ala Asn Ala Glu Arg Pro
 145 150 155 160

20 Thr Val Ala Arg Ile Ser Ile Cys Ala Val Pro Ser Arg Cys Thr Asp
 165 170 175

Cys Asp Gly Cys
 180

25

(2) INFORMATION FOR SEQ ID NO: 739:

30 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 218 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 739:

35 Leu Lys Glu Lys Ile Val Arg Ser Phe Glu Val Ser Pro Asp Gly Ser
 1 5 10 15

40 Phe Leu Leu Ile Asn Gly Ile Ala Gly Tyr Leu His Leu Leu Ala Met
 20 25 30

Lys Thr Lys Glu Leu Ile Gly Ser Met Lys Ile Asn Gly Arg Val Ala
 35 40 45

45 Ala Ser Thr Phe Ser Ser Asp Ser Lys Lys Val Tyr Ala Ser Ser Gly
 50 55 60

Asp Gly Glu Val Tyr Val Trp Asp Val Asn Ser Arg Lys Cys Leu Asn
 65 70 75 80

50 Arg Phe Val Asp Glu Gly Ser Leu Tyr Gly Leu Ser Ile Ala Thr Ser
 85 90 95

55 Arg Asn Gly Gln Tyr Val Ala Cys Gly Ser Asn Cys Gly Val Val Asn
 100 105 110

Ile Tyr Asn Gln Asp Ser Cys Leu Gln Glu Thr Asn Pro Lys Pro Ile
 115 120 125

60 Lys Ala Ile Met Asn Leu Val Thr Gly Val Thr Ser Leu Thr Phe Asn

| | | | | |
|----|---|-------------------------|-----|--|
| | 130 | 135 | 140 | |
| | Pro Thr Thr Glu Ile Leu Ala Ile Ala Ser | Glu Lys Met Lys Glu Ala | | |
| 5 | 145 150 | 155 | 160 | |
| | Val Arg Leu Val His Leu Pro Ser Cys Thr Val Phe Ser Asn Phe Pro | | | |
| | 165 | 170 | 175 | |
| 10 | Val Ile Lys Asn Lys Asn Ile Ser His Val His Thr Met Asp Phe Ser | | | |
| | 180 | 185 | 190 | |
| | Pro Arg Ser Gly Tyr Phe Ala Leu Gly Asn Glu Lys Gly Lys Ala Leu | | | |
| | 195 | 200 | 205 | |
| 15 | Met Tyr Arg Leu His His Tyr Ser Asp Phe | | | |
| | 210 | 215 | | |

20 (2) INFORMATION FOR SEQ ID NO: 740:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 167 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 740:

| | | | |
|---|---|-----|-----|
| Lys Ile Asn Gly Arg Val Ala Ala Ser Thr Phe Ser Ser Asp Ser Lys | | | |
| 1 | 5 | 10 | 15 |
| 30 | Lys Val Tyr Ala Ser Ser Gly Asp Gly Glu Val Tyr Val Trp Asp Val | | |
| | 20 | 25 | 30 |
| 35 | Asn Ser Arg Lys Cys Leu Asn Arg Phe Val Asp Glu Gly Ser Leu Tyr | | |
| | 35 | 40 | 45 |
| 40 | Gly Leu Ser Ile Ala Thr Ser Arg Asn Gly Gln Tyr Val Ala Cys Gly | | |
| | 50 | 55 | 60 |
| 45 | Ser Asn Cys Gly Val Val Asn Ile Tyr Asn Gln Asp Ser Cys Leu Gln | | |
| | 65 | 70 | 75 |
| | Glu Thr Asn Pro Lys Pro Ile Lys Ala Ile Met Asn Leu Val Thr Gly | | |
| | 85 | 90 | 95 |
| 50 | Val Thr Ser Leu Thr Phe Asn Pro Thr Thr Glu Ile Leu Ala Ile Ala | | |
| | 100 | 105 | 110 |
| 55 | Ser Glu Lys Met Lys Glu Ala Val Arg Leu Val His Leu Pro Ser Cys | | |
| | 115 | 120 | 125 |
| | Thr Val Phe Ser Asn Phe Pro Val Ile Lys Asn Lys Asn Ile Ser His | | |
| | 130 | 135 | 140 |
| 60 | Val His Thr Met Asp Phe Ser Pro Arg Ser Gly Tyr Phe Ala Leu Gly | | |
| | 145 | 150 | 155 |
| | Asn Glu Lys Gly Lys Ala Leu | | |
| | 165 | | |

(2) INFORMATION FOR SEQ ID NO: 741:

5 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 246 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 741:

| | | | |
|----|---|-----|-----|
| 10 | Met Arg Ile Leu Gln Leu Ile Leu Leu Ala Leu Ala Thr Gly Leu Val | | |
| | 1 | 5 | 10 |
| | 15 | 15 | |
| 15 | Gly Gly Glu Thr Arg Ile Ile Lys Gly Phe Glu Cys Lys Leu His Ser | | |
| | 20 | 25 | 30 |
| 15 | Gln Pro Trp Gln Ala Ala Leu Phe Glu Lys Thr Arg Leu Leu Cys Gly | | |
| | 35 | 40 | 45 |
| 20 | Ala Thr Leu Ile Ala Pro Arg Trp Leu Leu Thr Ala Ala His Cys Leu | | |
| | 50 | 55 | 60 |
| 25 | Lys Pro Arg Tyr Ile Val His Leu Gly Gln His Asn Leu Gln Lys Glu | | |
| | 65 | 70 | 75 |
| | 80 | | |
| 25 | Glu Gly Cys Glu Gln Thr Arg Thr Ala Thr Glu Ser Phe Pro His Pro | | |
| | 85 | 90 | 95 |
| 30 | Gly Phe Asn Asn Ser Leu Pro Asn Lys Asp His Arg Asn Asp Ile Met | | |
| | 100 | 105 | 110 |
| 30 | Leu Val Lys Met Ala Ser Pro Val Ser Ile Thr Trp Ala Val Arg Pro | | |
| | 115 | 120 | 125 |
| 35 | Leu Thr Leu Ser Ser Arg Cys Val Thr Ala Gly Thr Ser Cys Ser Phe | | |
| | 130 | 135 | 140 |
| 40 | Pro Ala Gly Ala Ala Arg Pro Asp Pro Ser Tyr Ala Cys Leu Thr Pro | | |
| | 145 | 150 | 155 |
| | 160 | | |
| 40 | Cys Asp Ala Pro Thr Ser Pro Ser Leu Ser Thr Arg Ser Val Arg Thr | | |
| | 165 | 170 | 175 |
| 45 | Pro Thr Pro Ala Thr Ser Gln Thr Pro Trp Cys Val Pro Ala Cys Arg | | |
| | 180 | 185 | 190 |
| 45 | Lys Gly Ala Arg Thr Pro Ala Arg Val Thr Pro Gly Ala Leu Trp Ser | | |
| | 195 | 200 | 205 |
| 50 | Val Thr Ser Leu Phe Lys Ala Leu Ser Pro Gly Ala Arg Ile Arg Val | | |
| | 210 | 215 | 220 |
| 50 | Arg Ser Pro Glu Ser Leu Val Ser Thr Arg Lys Ser Ala Asn Met Trp | | |
| | 225 | 230 | 235 |
| | 240 | | |
| 55 | Thr Gly Ser Arg Arg Arg | | |
| | 245 | | |

(2) INFORMATION FOR SEQ ID NO: 742:

(i) SEQUENCE CHARACTERISTICS:

- 5 (A) LENGTH: 228 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 742:

10 Glu Thr Arg Ile Ile Lys Gly Phe Glu Cys Lys Leu His Ser Gln Pro
 1 5 10 15

Trp Gln Ala Ala Leu Phe Glu Lys Thr Arg Leu Leu Cys Gly Ala Thr
 20 25 30

15 Leu Ile Ala Pro Arg Trp Leu Leu Thr Ala Ala His Cys Leu Lys Pro
 35 40 45

Arg Tyr Ile Val His Leu Gly Gln His Asn Leu Gln Lys Glu Glu Gly
 50 55 60

20 Cys Glu Gln Thr Arg Thr Ala Thr Glu Ser Phe Pro His Pro Gly Phe
 65 70 75 80

25 Asn Asn Ser Leu Pro Asn Lys Asp His Arg Asn Asp Ile Met Leu Val
 85 90 95

Lys Met Ala Ser Pro Val Ser Ile Thr Trp Ala Val Arg Pro Leu Thr
 100 105 110

30 Leu Ser Ser Arg Cys Val Thr Ala Gly Thr Ser Cys Ser Phe Pro Ala
 115 120 125

Gly Ala Ala Arg Pro Asp Pro Ser Tyr Ala Cys Leu Thr Pro Cys Asp
 130 135 140

35 Ala Pro Thr Ser Pro Ser Leu Ser Thr Arg Ser Val Arg Thr Pro Thr
 145 150 155 160

40 Pro Ala Thr Ser Gln Thr Pro Trp Cys Val Pro Ala Cys Arg Lys Gly
 165 170 175

Ala Arg Thr Pro Ala Arg Val Thr Pro Gly Ala Leu Trp Ser Val Thr
 180 185 190

45 Ser Leu Phe Lys Ala Leu Ser Pro Gly Ala Arg Ile Arg Val Arg Ser
 195 200 205

Pro Glu Ser Leu Val Ser Thr Arg Lys Ser Ala Asn Met Trp Thr Gly
 210 215 220

50 Ser Arg Arg Arg
 225

55

(2) INFORMATION FOR SEQ ID NO: 743:

(i) SEQUENCE CHARACTERISTICS:

- 60 (A) LENGTH: 74 amino acids
 (B) TYPE: amino acid

(D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 743:

5 Cys Lys Leu His Ser Gln Pro Trp Gln Ala Ala Leu Phe Glu Lys Thr
 1 5 10 15
 Arg Leu Leu Cys Gly Ala Thr Leu Ile Ala Pro Arg Trp Leu Leu Thr
 20 25 30
 10 Ala Ala His Cys Leu Lys Pro Arg Tyr Ile Val His Leu Gly Cys His
 35 40 45
 Asn Leu Gln Lys Glu Glu Gly Cys Glu Gln Thr Arg Thr Ala Thr Glu
 50 55 60
 15 Ser Phe Pro His Pro Gly Phe Asn Asn Ser
 65 70

20
 (2) INFORMATION FOR SEQ ID NO: 744:

(i) SEQUENCE CHARACTERISTICS:
 25 (A) LENGTH: 81 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 744:

30 Val Leu Gln Gly Arg Tyr Phe Ser Pro Ile Leu Glu Met Arg Arg Leu
 1 5 10 15
 Arg Pro Glu Gly Xaa Xaa Asn Leu Pro Gly Gly Ser Arg Ala Gln Lys
 20 25 30
 35 Glu Pro Arg Gln Asp Leu Thr Leu Val Leu Trp Pro His Cys Pro His
 35 40 45
 Phe Ala Met Thr Arg Ser Tyr Val Pro Thr Lys Gln Cys Met Val Gln
 50 55 60
 40 Gly Ser Phe Tyr Cys Ile Phe Ile Phe Lys Gly Pro Val Gln Asn Trp
 65 70 75 80
 45 Cys

50
 (2) INFORMATION FOR SEQ ID NO: 745:

(i) SEQUENCE CHARACTERISTICS:
 55 (A) LENGTH: 211 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 745:

Met Pro Ile Ile Asp Gln Val Asn Pro Glu Leu His Asp Phe Met Gln
 1 5 10 15
 60 Ser Ala Glu Val Gly Thr Ile Phe Ala Leu Ser Trp Leu Ile Thr Trp

727

| | 20 | 25 | 30 | |
|----|---|-----|-----|-----|
| | Phe Gly His Val Leu Ser Asp Phe Arg His Val Val Arg Leu Tyr Asp | | | |
| 5 | 35 | 40 | 45 | |
| | Phe Phe Leu Ala Cys His Pro Leu Met Pro Ile Tyr Phe Ala Ala Val | | | |
| | 50 | 55 | 60 | |
| 10 | Ile Val Leu Tyr Arg Glu Gln Glu Val Leu Asp Cys Asp Cys Asp Met | | | |
| | 65 | 70 | 75 | 80 |
| | Ala Ser Val His His Leu Leu Ser Gln Ile Pro Gln Asp Leu Pro Tyr | | | |
| | 85 | 90 | 95 | |
| 15 | Glu Thr Leu Ile Ser Arg Kaa Glu Thr Phe Leu Phe Ser Phe Pro His | | | |
| | 100 | 105 | 110 | |
| | Pro Asn Leu Leu Gly Arg Pro Leu Pro Asn Ser Lys Leu Arg Gly Arg | | | |
| 20 | 115 | 120 | 125 | |
| | Gln Pro Leu Leu Ser Lys Thr Leu Ser Trp His Gln Pro Ser Arg Gly | | | |
| | 130 | 135 | 140 | |
| 25 | Leu Ile Trp Cys Cys Gly Ser Gly Kaa Arg Gly Leu Leu Arg Pro Glu | | | |
| | 145 | 150 | 155 | 160 |
| | Asp Arg Thr Lys Asp Val Leu Thr Lys Pro Arg Thr Asn Arg Phe Val | | | |
| | 165 | 170 | 175 | |
| 30 | Lys Leu Ala Val Met Gly Leu Thr Val Ala Leu Gly Ala Ala Ala Leu | | | |
| | 180 | 185 | 190 | |
| | Ala Val Val Lys Ser Ala Leu Glu Trp Ala Pro Lys Phe Gln Leu Gln | | | |
| 35 | 195 | 200 | 205 | |
| | Leu Phe Pro | | | |
| | 210 | | | |
| 40 | (2) INFORMATION FOR SEQ ID NO: 746: | | | |
| | (i) SEQUENCE CHARACTERISTICS: | | | |
| 45 | (A) LENGTH: 70 amino acids | | | |
| | (B) TYPE: amino acid | | | |
| | (D) TOPOLOGY: linear | | | |
| | (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 746: | | | |
| 50 | Cys Pro Glu Phe Phe Ile Pro Ala Thr Leu Pro Cys Pro Phe Val Phe | | | |
| | 1 | 5 | 10 | 15 |
| | Ala Phe Thr Ser Glu Ala Ser Ser Arg Ala Tyr Leu Thr Gln Arg Gly | | | |
| | 20 | 25 | 30 | |
| 55 | Pro Gly Gly Leu Ala Gln Asn Leu Met Pro Leu Pro Val Gly Phe Trp | | | |
| | 35 | 40 | 45 | |
| | Met Gly Ser Leu Pro Pro Pro Trp Cys Trp Arg Lys Trp Val Ser Glu | | | |
| 60 | 50 | 55 | 60 | |

Ala Cys Ser Cys Phe Cys
65 70

5

(2) INFORMATION FOR SEQ ID NO: 747:

10 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 20 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 747:

Gln Pro Val Gln
20

20

(2) INFORMATION FOR SEQ ID NO: 748:

30 Pro Gly Gly Leu Ala Val Gly Ser Arg Trp Trp Ser Arg Ser Leu Thr
1 5 10 15

35

(2) INFORMATION FOR SEQ ID NO: 749:

40 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 30 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

 (xi) SEQUENCE DESCRIPTION: SEQ ID

45 Leu Glu Pro Ser Arg Gln Arg Arg Pro Arg Arg Arg Gly Gly Thr Ser
1 5 10 15

50 Arg Pro Glu Thr Asp Gln Arg Ala Lys Cys Trp Arg Gln Leu
20 25 30

(2) INFORMATION FOR SEQ ID NO: 750:

55 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 11 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

60 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 750:

Val Cys Leu Arg Cys Gln Asn Arg Met Glu Asn
 1 5 10

5

(2) INFORMATION FOR SEQ ID NO: 751:

(i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 367 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

15 Met Ala Ala Cys Thr Ala Arg Arg Pro Gly Arg Gly Gln Pro Leu Val

Val Pro Val Ala Asp Xaa Gly Pro Val Ala Lys Ala Ala Leu Cys Ala
30 25 30

20 Ala Xaa Ala Gly Ala Phe Ser Pro Ala Ser Thr Thr Thr Thr Arg Arg
 35 40 45

25 His Leu Ser Ser Arg Asn Arg Pro Glu Gly Lys Val Leu Glu Thr Val
 50 55 60

Gly Val Phe Glu Val Pro Lys Gln Asn Gly Lys Tyr Glu Thr Gly Gln
 65 70 75 80

30 Leu Phe Leu His Ser Ile Phe Gly Tyr Arg Gly Val Val Leu Phe Pro
85 90 95

Trp Gln Ala Arg Leu Xaa Asp Arg Asp Val Ala Ser Ala Ala Pro Glu
100 105 110

55 Lys Ala Glu Asn Pro Ala Gly His Gly Ser Lys Glu Val Lys Gly Lys
115 . . 120 125

40 Thr His Thr Tyr Tyr Gln Val Leu Ile Asp Ala Arg Asp Cys Pro His
 130 135 140

11e Ser Gin Arg Ser Gin Thr Glu Ala Val Ile The Ser Asp Thr Val
145 150 155 160

45 Asp Asp Ser Arg Ala Lys Ile Val Leu Ile Val 165 170 175

180 185 190

His Glu Leu Phe Glu Arg Phe Leu Leu Tyr Asp Gln Thr Lys Ala Pro
195 200 205

210 215 220

Pro Trp Leu Glu Leu Ser Asp Val His Arg Glu Thr Thr Glu Asn Ile
225 230 235 240

60 Arg Val Thr Val Ile Pro Phe Tyr Met Gly Met Arg Glu Ala Gln Asn

730

| | | | |
|----|---|-----|-----|
| | 245 | 250 | 255 |
| | Ser His Val Tyr Trp Trp Arg Tyr Cys Ile Arg Leu Glu Asn Leu Asp | | |
| | 260 | 265 | 270 |
| 5 | Ser Asp Val Val Gln Leu Arg Glu Arg His Trp Arg Ile Phe Ser Leu | | |
| | 275 | 280 | 285 |
| | Ser Gly Thr Leu Glu Thr Val Arg Gly Arg Gly Val Val Gly Arg Glu | | |
| 10 | 290 | 295 | 300 |
| | Pro Val Leu Ser Lys Gln Gln Pro Ala Phe Gln Tyr Ser Ser His Val | | |
| | 305 | 310 | 315 |
| 15 | Ser Leu Gln Ala Ser Ser Gly His Met Trp Gly Thr Phe Arg Phe Glu | | |
| | 325 | 330 | 335 |
| | Arg Pro Asp Gly Ser His Phe Asp Val Arg Ile Pro Pro Phe Ser Leu | | |
| | 340 | 345 | 350 |
| 20 | Glu Ser Asn Lys Asp Glu Lys Thr Pro Pro Ser Gly Leu His Trp | | |
| | 355 | 360 | 365 |

25 (2) INFORMATION FOR SEQ ID NO: 752:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 33 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 752:

Met Ala Ala Cys Thr Ala Arg Arg Pro Gly Arg Gly Gln Pro Leu Val
 35 1 5 10 15
 Val Pro Val Ala Asp Xaa Gly Pro Val Ala Lys Ala Ala Leu Cys Ala
 20 25 30

40 Ala

45 (2) INFORMATION FOR SEQ ID NO: 753:

50 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 33 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 753:

Met Ala Ala Cys Thr Ala Arg Arg Pro Gly Arg Gly Gln Pro Leu Val
 1 5 10 15
 55 Val Pro Val Ala Asp Xaa Gly Pro Val Ala Lys Ala Ala Leu Cys Ala
 20 25 30

60 Ala

(2) INFORMATION FOR SEQ ID NO: 754:

5

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 33 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 754:

Met Ala Ala Cys Thr Ala Arg Arg Pro Gly Arg Gly Gln Pro Leu Val
1 5 10 15

15 Val Pro Val Ala Asp Xaa Gly Pro Val Ala Lys Ala Ala Leu Cys Ala
20 25 30

Ala

20

(2) INFORMATION FOR SEQ ID NO: 755:

25

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 33 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 755:

30

Met Ala Ala Cys Thr Ala Arg Arg Pro Gly Arg Gly Gln Pro Leu Val
1 5 10 15

35

Val Pro Val Ala Asp Xaa Gly Pro Val Ala Lys Ala Ala Leu Cys Ala
20 25 30

Ala

40

(2) INFORMATION FOR SEQ ID NO: 756:

45

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 33 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 756:

50

Met Ala Ala Cys Thr Ala Arg Arg Pro Gly Arg Gly Gln Pro Leu Val
1 5 10 15

Val Pro Val Ala Asp Xaa Gly Pro Val Ala Lys Ala Ala Leu Cys Ala
20 25 30

55

Ala

60

(2) INFORMATION FOR SEQ ID NO: 757:

(i) SEQUENCE CHARACTERISTICS:

- 5 (A) LENGTH: 35 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 757:

10 Val Leu Glu Thr Val Gly Val Phe Glu Val Pro Lys Gln Asn Gly Lys
1 5 10 15

Tyr Glu Thr Gly Gln Leu Phe Leu His Ser Ile Phe Gly Tyr Arg Gly
20 25 30

15 Val Val Leu
35

20 (2) INFORMATION FOR SEQ ID NO: 758:

(i) SEQUENCE CHARACTERISTICS:

- 25 (A) LENGTH: 16 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 758:

Gly Leu Asp Tyr Val Ser His Glu Asp Ile Leu Pro Tyr Thr Ser Thr
1 5 10 15

30

35

(2) INFORMATION FOR SEQ ID NO: 759:

(i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 19 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 759:

Asp Val His Arg Glu Thr Thr Glu Asn Ile Arg Val Thr Val Ile Pro
45 1 5 10 15

Phe Tyr Met

50

(2) INFORMATION FOR SEQ ID NO: 760:

(i) SEQUENCE CHARACTERISTICS:

- 55 (A) LENGTH: 21 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 760:

60 Trp Trp Arg Tyr Cys Ile Arg Leu Glu Asn Leu Asp Ser Asp Val Val

1 5 10 15

Gln Leu Arg Glu Arg
20

5

(2) INFORMATION FOR SEQ ID NO: 761:

10 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 26 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 761:

15 Pro Ala Phe Gln Tyr Ser Ser His Val Ser Leu Gln Ala Ser Ser Gly
1 5 10 15

20 His Met Trp Gly Thr Phe Arg Phe Glu Arg
20 25

(2) INFORMATION FOR SEQ ID NO: 762:

25 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 11 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 762:

Ser Leu Cys Cys Pro Glu Gly Ala Glu Gly Cys
1 5 10

35

(2) INFORMATION FOR SEQ ID NO: 763:

40 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 12 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 763:

45 Gln Leu Lys Lys Thr His Tyr Asp Arg Pro Cys Pro
1 5 10

50 (2) INFORMATION FOR SEQ ID NO: 764:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 12 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 764:

Gln Leu Lys Lys Thr His Tyr Asp Arg Pro Cys Pro
1 5 10

60

(2) INFORMATION FOR SEQ ID NO: 765:

5 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 170 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 765:

Ala Gln Arg Lys Lys Glu Met Val Leu Ser Glu Lys Val Ser Gln Leu
1 5 10 15

Met Glu Trp Thr Asn Lys Arg Pro Val Ile Arg Met Asn Gly Asp Lys
15 20 25 30

Phe Arg Arg Leu Val Lys Ala Pro Pro Arg Asn Tyr Ser Val Ile Val
20 35 40 45

Met Phe Thr Ala Leu Gln Leu His Arg Gln Cys Val Val Cys Lys Gln
25 50 55 60

Ala Asp Glu Glu Phe Gln Ile Leu Ala Asn Ser Trp Arg Tyr Ser Ser
30 65 70 75 80

Ala Phe Thr Asn Arg Ile Phe Phe Ala Met Val Asp Phe Asp Glu Gly
35 85 90 95

Ser Asp Val Phe Gln Met Leu Asn Met Asn Ser Ala Pro Thr Phe Ile
40 100 105 110

Asn Phe Pro Ala Lys Gly Lys Pro Lys Arg Gly Asp Thr Tyr Glu Leu
45 115 120 125

Gln Val Arg Gly Phe Ser Ala Glu Gln Ile Ala Arg Trp Ile Ala Asp
50 130 135 140

Arg Thr Asp Val Asn Ile Arg Val Ile Arg Pro Pro Asn Met Ala Ala
55 145 150 155 160

Arg Trp Arg Phe Trp Cys Val Ser Val Thr
60 165 170

45 (2) INFORMATION FOR SEQ ID NO: 766:

50 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 15 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 766:

Met Val Val Ala Leu Leu Ile Val Cys Asp Val Pro Ser Ala Ser
55 1 5 10 15

60 (2) INFORMATION FOR SEQ ID NO: 767:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 16 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 767:

Ala Gln Arg Lys Lys Glu Met Val Leu Ser Glu Lys Val Ser Gln Leu
1 5 10 15

10

15 (2) INFORMATION FOR SEQ ID NO: 768:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 17 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 768:

Met Glu Trp Thr Asn Lys Arg Pro Val Ile Arg Met Asn Gly Asp Lys
1 5 10 15

25

Phe

30

(2) INFORMATION FOR SEQ ID NO: 769:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 56 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 769:

Arg Arg Leu Val Lys Ala Pro Pro Arg Asn Tyr Ser Val Ile Val Met
40 1 5 10 15

Phe Thr Ala Leu Gln Leu His Arg Gln Cys Val Val Cys Lys Gln Ala
35 20 25 30

45 Asp Glu Glu Phe Gln Ile Leu Ala Asn Ser Trp Arg Tyr Ser Ser Ala
35 40 45

Phe Thr Asn Arg Ile Phe Phe Ala
50 55

50

(2) INFORMATION FOR SEQ ID NO: 770:

55 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 770:

60

Met Val Asp Phe Asp Glu Gly Ser Asp Val Phe Gln Met Leu Asn Met
1 5 10 15

Asn Ser Ala Pro Thr Phe Ile Asn Phe Pro Ala Lys Gly Lys Pro
5 20 25 30

10 (2) INFORMATION FOR SEQ ID NO: 771:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 37 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 771:

Lys Arg Gly Asp Thr Tyr Glu Leu Gln Val Arg Gly Phe Ser Ala Glu
1 5 10 15

20 Gln Ile Ala Arg Trp Ile Ala Asp Arg Thr Asp Val Asn Ile Arg Val
20 25 30

Ile Arg Pro Pro Asn
35

25

(2) INFORMATION FOR SEQ ID NO: 772:

30 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 44 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 772:

35 Tyr Ala Gly Pro Leu Met Leu Gly Leu Leu Ala Val Ile Gly Gly
1 5 10 15

40 Leu Val Tyr Leu Arg Arg Val Ile Trp Asn Phe Ser Leu Ile Lys Leu
20 25 30

Asp Gly Leu Leu Gln Leu Cys Val Leu Cys Leu Leu
35 40

45

(2) INFORMATION FOR SEQ ID NO: 773:

50 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 17 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 773:

55 Asp Ala Val Phe Lys Gly Phe Ser Asp Cys Leu Leu Lys Leu Gly Asp
1 5 10 15

Ser

60

(2) INFORMATION FOR SEQ ID NO: 774:

- 5 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 20 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 774:

Cys Gln Glu Gly Ala Lys Asp Met Trp Asp Lys Leu Arg Lys Glu Ser
1 5 10 15

Lys Asn Leu Asn
15 20

(2) INFORMATION FOR SEQ ID NO: 775:

- 20 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 16 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear
25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 775:

Val Leu Leu Val Ser Leu Ser Ala Ala Leu Ala Thr Trp Leu Ser Phe
1 5 10 15

30

(2) INFORMATION FOR SEQ ID NO: 776:

- 35 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 48 amino acids
 (B) TYPE: amino acid
40 (D) TOPOLOGY: linear
45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 776:

Met Gly Leu Lys Leu Asn Gly Arg Tyr Ile Ser Leu Ile Leu Ala Val
1 5 10 15
45 Gln Ile Ala Tyr Leu Val Gln Ala Val Arg Ala Ala Gly Lys Cys Asp
20 25 30

Ala Val Phe Lys Gly Phe Ser Asp Cys Leu Leu Lys Leu Gly Asp Ser
50 35 40 45

55

(2) INFORMATION FOR SEQ ID NO: 777:

- 60 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 90 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 777:

5 Pro Ala Ala Trp Asp Asp Lys Thr Asn Ile Lys Thr Val Cys Thr Tyr
 1 5 10 15
 Trp Glu Asp Phe His Ser Cys Thr Val Thr Ala Leu Thr Asp Cys Gln
 20 25 30
 10 Glu Gly Ala Lys Asp Met Trp Asp Lys Leu Arg Lys Glu Ser Lys Asn
 35 40 45
 Leu Asn Ile Gln Gly Ser Leu Phe Glu Leu Cys Gly Ser Gly Asn Gly
 15 50 55 60
 Ala Ala Gly Ser Leu Leu Pro Ala Phe Pro Val Leu Leu Val Ser Leu
 65 70 75 80
 20 Ser Ala Ala Leu Ala Thr Trp Leu Ser Phe
 85 90

25 (2) INFORMATION FOR SEQ ID NO: 778:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 143 amino acids

(B) TYPE: amino acid

30 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 778:

Met Gly Leu Lys Leu Asn Gly Arg Tyr Ile Ser Leu Ile Leu Ala Val
 1 5 10 15
 35 Gln Ile Ala Tyr Leu Val Gln Ala Val Arg Ala Ala Gly Lys Cys Asp
 20 25 30
 Ala Val Phe Lys Gly Phe Ser Asp Cys Leu Leu Lys Leu Gly Asp Ser
 40 35 40 45
 Xaa Xaa Xaa Xaa Pro Ala Ala Trp Asp Asp Lys Thr Asn Ile Lys
 50 55 60
 45 Thr Val Cys Thr Tyr Trp Glu Asp Phe His Ser Cys Thr Val Thr Ala
 65 70 75 80
 Leu Thr Asp Cys Gln Glu Gly Ala Lys Asp Met Trp Asp Lys Leu Arg
 85 90 95
 50 Lys Glu Ser Lys Asn Leu Asn Ile Gln Gly Ser Leu Phe Glu Leu Cys
 100 105 110
 55 Gly Ser Gly Asn Gly Ala Ala Gly Ser Leu Leu Pro Ala Phe Pro Val
 115 120 125
 Leu Leu Val Ser Leu Ser Ala Ala Leu Ala Thr Trp Leu Ser Phe
 130 135 140

(2) INFORMATION FOR SEQ ID NO: 779:

(i) SEQUENCE CHARACTERISTICS:

- 5 (A) LENGTH: 34 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 779:

10 Met Asn Ser Ala Ala Gly Phe Ser His Leu Asp Arg Arg Glu Arg Val
 1 5 10 15
Leu Lys Leu Gly Glu Ser Phe Glu Lys Gln Pro Arg Cys Ala Ser Thr
 20 25 30
15 Leu Cys

20

(2) INFORMATION FOR SEQ ID NO: 780:

(i) SEQUENCE CHARACTERISTICS:

- 25 (A) LENGTH: 28 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 780:

30 Thr Ile Tyr Pro Thr Glu Glu Glu Leu Gln Ala Val Gln Lys Ile Val
 1 5 10 15
Ser Ile Thr Glu Arg Ala Leu Lys Leu Val Ser Asp
 20 25

35

(2) INFORMATION FOR SEQ ID NO: 781:

(i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 30 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 781:

45 Arg Ala Leu Lys Gly Val Leu Arg Val Gly Val Leu Ala Lys Gly Leu
 1 5 10 15
Leu Leu Arg Gly Asp Arg Asn Val Asn Leu Val Leu Leu Cys
 20 25 30

50

(2) INFORMATION FOR SEQ ID NO: 782:

(i) SEQUENCE CHARACTERISTICS:

- 55 (A) LENGTH: 39 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 782:

60

740

Ala Leu Ala Ala Leu Arg His Ala Lys Trp Phe Gln Ala Arg Ala Asn
1 5 10 15

Gly Leu Gln Ser Cys Val Ile Ile Arg Ile Leu Arg Asp Leu Cys
5 20 25 30

Gln Arg Val Pro Thr Trp Ser
35

10

(2) INFORMATION FOR SEQ ID NO: 783:

15 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 17 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 783:

20 Gly Asp Ala Leu Arg Arg Val Phe Glu Cys Ile Ser Ser Gly Ile Ile
1 5 10 15

Leu

25

(2) INFORMATION FOR SEQ ID NO: 784:

30 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 16 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 784:

35 Leu Ala Phe Arg Gln Ile His Lys Val Leu Gly Met Asp Pro Leu Pro
1 5 - 10 15

40

(2) INFORMATION FOR SEQ ID NO: 785:

45 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 342 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 785:

Thr Ile Tyr Pro Thr Glu Glu Leu Gln Ala Val Gln Lys Ile Val
1 5 10 15

Ser Ile Thr Glu Arg Ala Leu Lys Leu Val Ser Asp Ser Leu Ser Glu
55 20 25 30

His Glu Lys Asn Lys Asn Lys Glu Gly Asp Asp Lys Lys Glu Gly Gly
35 40 45

60

Lys Asp Arg Ala Leu Lys Gly Val Leu Arg Val Gly Val Leu Ala Lys
 50 55 60

Gly Leu Leu Leu Arg Gly Asp Arg Asn Val Asn Leu Val Leu Cys
 5 65 70 75 80

Ser Glu Lys Pro Ser Lys Thr Leu Leu Ser Arg Ile Ala Glu Asn Leu
 85 90 95

10 Pro Lys Gln Leu Ala Val Ile Ser Pro Glu Lys Tyr Asp Ile Lys Cys
 100 105 110

Ala Val Ser Glu Ala Ala Ile Ile Leu Asn Ser Cys Val Glu Pro Lys
 115 120 125

15 Met Gln Val Thr Ile Thr Leu Thr Ser Pro Ile Ile Arg Glu Glu Asn
 130 135 140

Met Arg Glu Gly Asp Val Thr Ser Gly Met Val Lys Asp Pro Pro Asp
 20 145 150 155 160

Val Leu Asp Arg Gln Lys Cys Leu Asp Ala Leu Ala Leu Arg His
 165 170 175

25 Ala Lys Trp Phe Gln Ala Arg Ala Asn Gly Leu Gln Ser Cys Val Ile
 180 185 190

Ile Ile Arg Ile Leu Arg Asp Leu Cys Gln Arg Val Pro Thr Trp Ser
 195 200 205

30 Asp Phe Pro Ser Trp Ala Met Glu Leu Leu Val Glu Lys Ala Ile Ser
 210 215 220

Ser Ala Ser Ser Pro Gln Ser Pro Gly Asp Ala Leu Arg Arg Val Phe
 35 225 230 235 240

Glu Cys Ile Ser Ser Gly Ile Ile Leu Lys Gly Ser Pro Gly Leu Leu
 245 250 255

40 Asp Pro Cys Glu Lys Asp Pro Phe Asp Thr Leu Ala Thr Met Thr Asp
 260 265 270

Gln Gln Arg Glu Asp Ile Thr Ser Ser Ala Gln Phe Ala Leu Arg Leu
 275 280 285

45 Leu Ala Phe Arg Gln Ile His Lys Val Leu Gly Met Asp Pro Leu Pro
 290 295 300

Gln Met Ser Gln Arg Phe Asn Ile His Asn Asn Arg Lys Arg Arg Arg
 50 305 310 315 320

Asp Ser Asp Gly Val Asp Gly Phe Glu Ala Glu Gly Lys Lys Asp Lys
 325 330 335

55 Lys Asp Tyr Asp Asn Phe
 340

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 24 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 786:

Met Gly Ser Gln His Ser Ala Ala Ala Arg Pro Ser Ser Cys Arg Arg
1 5 10 15

10 Lys Gln Glu Asp Asp Arg Asp Gly
20

15

(2) INFORMATION FOR SEQ ID NO: 787:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 787:

25

Leu Leu Ala Glu Arg Glu Gln Glu Glu Ala Ile Ala Gln Phe Pro Tyr
1 5 10 15

Val Glu Phe Thr Gly Arg Asp Ser Ile Thr Cys Leu Thr Cys
20 25 30

30

(2) INFORMATION FOR SEQ ID NO: 788:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 34 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 788:

40

Gln Gly Thr Gly Tyr Ile Pro Thr Glu Gln Val Asn Glu Leu Val Ala
1 5 10 15

Leu Ile Pro His Ser Asp Gln Arg Leu Arg Pro Gln Arg Thr Lys Gln
20 25 30

45 Tyr Val

50

(2) INFORMATION FOR SEQ ID NO: 789:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 55 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 789:

60

Ala Arg Leu Asn Val Gly Arg Glu Ser Leu Lys Arg Glu Met Leu Lys
1 5 10 15

Ser Gln Gly Val Lys Val Ser Glu Ser Pro Met Gly Ala Arg His Ser
20 25 30

5 Ser Trp Pro Glu Gly Ala Ala Phe Cys Lys Lys Val Gln Gly Ala Gln
35 40 45

Met Gln Phe Pro Pro Arg Arg
50 55

10

(2) INFORMATION FOR SEQ ID NO: 790:

15 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 790:

20 Ala Arg Leu Asn Val Gly Arg Glu Ser Leu Lys Arg Glu Met Leu
1 5 10 15

25 (2) INFORMATION FOR SEQ ID NO: 791:

30 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 20 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 791:

35 Leu Lys Ser Gln Gly Val Lys Val Ser Glu Ser Pro Met Gly Ala Arg
1 5 10 15

His Ser Ser Trp
20

40

(2) INFORMATION FOR SEQ ID NO: 792:

45 (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 17 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 792:

50 Ala Phe Cys Lys Lys Val Gln Gly Ala Gln Met Gln Phe Pro Pro Arg
1 5 10 15

Arg

55

(2) INFORMATION FOR SEQ ID NO: 793:

60 (i) SEQUENCE CHARACTERISTICS:

744

(A) LENGTH: 17 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 793:

5

Ala Phe Cys Lys Lys Val Gln Gly Ala Gln Met Gln Phe Pro Pro Arg
1 5 10 15

10

Arg

15

(2) INFORMATION FOR SEQ ID NO: 794:

15

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 37 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

20

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 794:

Val Gln Val Leu Glu Gln Leu Thr Asn Asn Ala Val Ala Glu Ser Arg
1 5 10 15

25

Phe Asn Asp Ala Ala Tyr Tyr Trp Met Leu Ser Met Gln Cys Leu
20 25 30

30

Asp Ile Ala Gln Asp
35

30

(2) INFORMATION FOR SEQ ID NO: 795:

35

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 34 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 795:

40

Pro Ala Gln Lys Asp Thr Met Leu Gly Lys Phe Tyr His Phe Gin Arg
1 5 10 15

45

Leu Ala Glu Leu Tyr His Gly Tyr His Ala Ile His Arg His Thr Glu
20 25 30

Asp Pro

50

(2) INFORMATION FOR SEQ ID NO: 796:

55

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 27 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 796:

60 Leu Ala Lys Gln Ser Lys Ala Leu Gly Ala Tyr Arg Leu Ala Arg His

1 5 10 15

Ala Tyr Asp Lys Leu Arg Gly Leu Tyr Ile Pro
20 25

5

(2) INFORMATION FOR SEQ ID NO: 797:

10 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 36 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 797:

15 Ala Arg Phe Gln Lys Ser Ile Glu Leu Gly Thr Leu Thr Ile Arg Ala
1 5 10 15

20 Lys Pro Phe His Asp Ser Glu Glu Leu Val Pro Leu Cys Tyr Arg Cys
20 25 30

Ser Thr Asn Asn
35

25

(2) INFORMATION FOR SEQ ID NO: 798:

30 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 73 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 798:

35 Pro Leu Leu Asn Asn Leu Gly Asn Val Cys Ile Asn Cys Arg Gln Pro
1 5 10 15

Phe Ile Phe Ser Ala Ser Ser Tyr Asp Val Leu His Leu Val Glu Phe
20 25 30

40 Tyr Leu Glu Glu Gly Ile Thr Asp Glu Glu Ala Ile Ser Leu Ile Asp
35 40 45

45 Leu Glu Val Leu Arg Pro Lys Arg Asp Asp Arg Gln Leu Glu Ile Cys
50 55 60

Lys Gln Gln Leu Pro Asp Ser Cys Gly
65 70

50

(2) INFORMATION FOR SEQ ID NO: 799:

55 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 29 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 799:

60 Met Pro Tyr Ala Gln Trp Leu Ala Glu Asn Asp Arg Phe Glu Glu Ala

746

1 5 10 15

Gln Lys Ala Phe His Lys Ala Gly Arg Gln Arg Glu Ala
20 25

5

(2) INFORMATION FOR SEQ ID NO: 800:

10 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 36 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 800:

15 Phe Ser Val His Arg Pro Glu Thr Leu Phe Asn Ile Ser Arg Phe Leu
1 5 10 15

20 Leu His Ser Leu Pro Lys Asp Thr Pro Ser Gly Ile Ser Lys Val Lys
20 25 30

Ile Leu Phe Thr
35

25

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

| | | | |
|---|---------------------------|--|--|
| A. The indications made below relate to the microorganism referred to in the description on page <u>161</u> , line <u>N/A</u> | | | |
| B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet | | | |
| Name of depositary institution American Type Culture Collection | | | |
| Address of depositary institution (<i>including postal code and country</i>) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America | | | |
| Date of deposit March 27, 1997 | Accession Number 97979 | | |
| C. ADDITIONAL INDICATIONS (<i>leave blank if not applicable</i>) This information is continued on an additional sheet | | | |
| D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (<i>if the indications are not for all designated States</i>) | | | |
| E. SEPARATE FURNISHING OF INDICATIONS (<i>leave blank if not applicable</i>) The indications listed below will be submitted to the International Bureau later (<i>specify the general nature of the indications, e.g., "Accession Number of Deposit"</i>) | | | |
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INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

| | |
|---|------------------------|
| A. The indications made below relate to the microorganism referred to in the description on page 162, line N/A | |
| B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet | |
| Name of depositary institution American Type Culture Collection | |
| Address of depositary institution (<i>including postal code and country</i>) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America | |
| Date of deposit April 4, 1997 | Accession Number 97974 |
| C. ADDITIONAL INDICATIONS (<i>leave blank if not applicable</i>) This information is continued on an additional sheet | |
| D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (<i>if the indications are not for all designated States</i>) | |
| E. SEPARATE FURNISHING OF INDICATIONS (<i>leave blank if not applicable</i>) The indications listed below will be submitted to the International Bureau later (<i>specify the general nature of the indications, e.g., "Accession Number of Deposit"</i>) | |
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INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

| | |
|---|----------------------------|
| A. The indications made below relate to the microorganism referred to in the description on page <u>162</u> , line <u>N/A</u> | |
| B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet <input type="checkbox"/> | |
| Name of depositary institution American Type Culture Collection | |
| Address of depositary institution (<i>including postal code and country</i>) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America | |
| Date of deposit May 29, 1997 | Accession Number 209080 |
| C. ADDITIONAL INDICATIONS (<i>leave blank if not applicable</i>) This information is continued on an additional sheet <input type="checkbox"/> | |
| D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (<i>if the indications are not for all designated States</i>) | |
| E. SEPARATE FURNISHING OF INDICATIONS (<i>leave blank if not applicable</i>) | |
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INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

| | | | |
|--|----------------------------|--|--|
| A. The indications made below relate to the microorganism referred to in the description on page <u>164</u> , line <u>N/A</u> | | | |
| B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet | | | |
| <p>Name of depositary institution American Type Culture Collection</p> <p>Address of depositary institution (<i>including postal code and country</i>) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America</p> | | | |
| Date of deposit December 3, 1997 | Accession Number 209511 | | |
| C. ADDITIONAL INDICATIONS (<i>leave blank if not applicable</i>) This information is continued on an additional sheet | | | |
| D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (<i>if the indications are not for all designated States</i>) | | | |
| E. SEPARATE FURNISHING OF INDICATIONS (<i>leave blank if not applicable</i>) The indications listed below will be submitted to the International Bureau later (<i>specify the general nature of the indications, e.g., "Accession Number of Deposit"</i>) | | | |
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INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

| | |
|---|------------------------|
| A. The indications made below relate to the microorganism referred to in the description on page <u>167</u> . line <u>N/A</u> | |
| B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet | |
| Name of depositary institution American Type Culture Collection | |
| Address of depositary institution (<i>including postal code and country</i>) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America | |
| Date of deposit April 4, 1997 | Accession Number 97975 |
| C. ADDITIONAL INDICATIONS (<i>leave blank if not applicable</i>) This information is continued on an additional sheet | |
| D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (<i>if the indications are not for all designated States</i>) | |
| E. SEPARATE FURNISHING OF INDICATIONS (<i>leave blank if not applicable</i>) The indications listed below will be submitted to the International Bureau later (<i>specify the general nature of the indications. e.g., "Accession Number of Deposit"</i>) | |
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INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13*bis*)

| | |
|---|----------------------------|
| A. The indications made below relate to the microorganism referred to in the description on page <u>167</u> , line <u>N/A</u> | |
| B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet <input checked="" type="checkbox"/> | |
| Name of depositary institution American Type Culture Collection | |
| Address of depositary institution (<i>including postal code and country</i>) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America | |
| Date of deposit May 29, 1997 | Accession Number 209081 |
| C. ADDITIONAL INDICATIONS (<i>leave blank if not applicable</i>) This information is continued on an additional sheet <input checked="" type="checkbox"/> | |
| D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (<i>if the indications are not for all designated States</i>) | |
| E. SEPARATE FURNISHING OF INDICATIONS (<i>leave blank if not applicable</i>) The indications listed below will be submitted to the International Bureau later (<i>specify the general nature of the indications, e.g., "Accession Number of Deposit"</i>) | |

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INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

| | |
|---|------------------------|
| A. The indications made below relate to the microorganism referred to in the description on page 171, line N/A | |
| B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet <input checked="" type="checkbox"/> | |
| Name of depositary institution American Type Culture Collection | |
| Address of depositary institution (<i>including postal code and country</i>) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America | |
| Date of deposit April 4, 1997 | Accession Number 97976 |
| C. ADDITIONAL INDICATIONS (<i>leave blank if not applicable</i>) This information is continued on an additional sheet <input checked="" type="checkbox"/> | |
| D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (<i>if the indications are not for all designated States</i>) | |
| E. SEPARATE FURNISHING OF INDICATIONS (<i>leave blank if not applicable</i>) The indications listed below will be submitted to the International Bureau later (<i>specify the general nature of the indications, e.g., "Accession Number of Deposit"</i>) | |
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INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

| | |
|---|----------------------------------|
| A. The indications made below relate to the microorganism referred to in the description on page <u>172</u> , line <u>N/A</u> | |
| B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet <u>—</u> | |
| Name of depositary institution <u>American Type Culture Collection</u> | |
| Address of depositary institution (<i>including postal code and country</i>) <u>10801 University Boulevard</u> <u>Manassas, Virginia 20110-2209</u> <u>United States of America</u> | |
| Date of deposit <u>April 4, 1997</u> | Accession Number <u>97977</u> |
| C. ADDITIONAL INDICATIONS (<i>leave blank if not applicable</i>) This information is continued on an additional sheet <u>—</u> | |
| D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (<i>if the indications are not for all designated States</i>) | |
| E. SEPARATE FURNISHING OF INDICATIONS (<i>leave blank if not applicable</i>) The indications listed below will be submitted to the International Bureau later (<i>specify the general nature of the indications. e.g., "Accession Number of Deposit"</i>) | |
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INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

| | |
|---|-------------------------|
| A. The indications made below relate to the microorganism referred to in the description on page <u>172</u>, line <u>N/A</u> | |
| B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet <u> </u> | |
| Name of depositary institution American Type Culture Collection | |
| Address of depositary institution (<i>including postal code and country</i>) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America | |
| Date of deposit May 29, 1997 | Accession Number 209082 |
| C. ADDITIONAL INDICATIONS (<i>leave blank if not applicable</i>) This information is continued on an additional sheet <u> </u> | |
| D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (<i>if the indications are not for all designated States</i>) | |
| E. SEPARATE FURNISHING OF INDICATIONS (<i>leave blank if not applicable</i>) The indications listed below will be submitted to the International Bureau later (<i>specify the general nature of the indications, e.g., "Accession Number of Deposit"</i>) | |
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INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

- A. The indications made below relate to the microorganism referred to in the description
on page 176, line N/A

B. IDENTIFICATION OF DEPOSITFurther deposits are identified on an additional sheet

Name of depositary institution

American Type Culture Collection

Address of depositary institution (*including postal code and country*)10801 University Boulevard
Manassas, Virginia 20110-2209
United States of America

Date of deposit April 28, 1997

Accession Number 209007

- C. ADDITIONAL INDICATIONS** (*leave blank if not applicable*) This information is continued on an additional sheet

D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (*if the indications are not for all designated States*)**E. SEPARATE FURNISHING OF INDICATIONS** (*leave blank if not applicable*)The indications listed below will be submitted to the International Bureau later (*specify the general nature of the indications, e.g., "Accession Number of Deposit"*)

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INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

| | |
|---|----------------------------|
| A. The indications made below relate to the microorganism referred to in the description on page <u>176</u> , line <u>N/A</u> | |
| B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet <input checked="" type="checkbox"/> | |
| Name of depositary institution American Type Culture Collection | |
| Address of depositary institution (<i>including postal code and country</i>) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America | |
| Date of deposit May 29, 1997 | Accession Number 209083 |
| C. ADDITIONAL INDICATIONS (<i>leave blank if not applicable</i>) This information is continued on an additional sheet <input checked="" type="checkbox"/> | |
| D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (<i>if the indications are not for all designated States</i>) | |
| E. SEPARATE FURNISHING OF INDICATIONS (<i>leave blank if not applicable</i>) The indications listed below will be submitted to the International Bureau later (<i>specify the general nature of the indications, e.g., "Accession Number of Deposit"</i>) | |
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INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

| | |
|---|--|
| A. The indications made below relate to the microorganism referred to in the description on page <u>179</u>, line <u>N/A</u> | |
| B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet <input type="checkbox"/> | |
| Name of depositary institution American Type Culture Collection | |
| Address of depositary institution (<i>including postal code and country</i>) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America | |
| Date of deposit April 28, 1997 | Accession Number 209008 |
| C. ADDITIONAL INDICATIONS (<i>leave blank if not applicable</i>) This information is continued on an additional sheet <input type="checkbox"/> | |
| D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (<i>if the indications are not for all designated States</i>) | |
| E. SEPARATE FURNISHING OF INDICATIONS (<i>leave blank if not applicable</i>) The indications listed below will be submitted to the International Bureau later (<i>specify the general nature of the indications, e.g., "Accession Number of Deposit"</i>) | |
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INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

| | |
|--|----------------------------|
| A. The indications made below relate to the microorganism referred to in the description on page <u>179</u>, line <u>N/A</u> | |
| B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet <u>1</u> | |
| Name of depositary institution American Type Culture Collection | |
| Address of depositary institution (<i>including postal code and country</i>) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America | |
| Date of deposit May 29, 1997 | Accession Number 209084 |
| C. ADDITIONAL INDICATIONS (<i>leave blank if not applicable</i>) This information is continued on an additional sheet <u>1</u> | |
| D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (<i>if the indications are not for all designated States</i>) | |
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INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

| | |
|---|-----------------------------------|
| A. The indications made below relate to the microorganism referred to in the description on page <u>180</u>, line <u>N/A</u> | |
| B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet <input type="checkbox"/> | |
| Name of depositary institution American Type Culture Collection | |
| Address of depositary institution (<i>including postal code and country</i>) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America | |
| Date of deposit April 28, 1997 | Accession Number 209010 |
| C. ADDITIONAL INDICATIONS (<i>leave blank if not applicable</i>) This information is continued on an additional sheet <input type="checkbox"/> | |
| D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (<i>if the indications are not for all designated States</i>) | |
| E. SEPARATE FURNISHING OF INDICATIONS (<i>leave blank if not applicable</i>) The indications listed below will be submitted to the International Bureau later (<i>specify the general nature of the indications. e.g., "Accession Number of Deposit"</i>) | |
| For receiving Office use only | |
| <input type="checkbox"/> This sheet was received with the international application | For International Bureau use only |
| Authorized officer <i>1398</i> | Authorized officer |

INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description
on page 180, line N/A

B. IDENTIFICATION OF DEPOSITFurther deposits are identified on an additional sheet

Name of depositary institution

American Type Culture Collection

Address of depositary institution (*including postal code and country*)10801 University Boulevard
Manassas, Virginia 20110-2209
United States of America

Date of deposit May 29, 1997

Accession Number 209085

C. ADDITIONAL INDICATIONS (*leave blank if not applicable*) This information is continued on an additional sheet **D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE** (*If the indications are not for all designated States*)**E. SEPARATE FURNISHING OF INDICATIONS** (*leave blank if not applicable*)The indications listed below will be submitted to the International Bureau later (*specify the general nature of the indications, e.g., "Accession Number of Deposit"*)

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INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

| | |
|---|-------------------------|
| A. The indications made below relate to the microorganism referred to in the description on page <u>182</u> , line <u>N/A</u> | |
| B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet <input type="checkbox"/> | |
| Name of depositary institution American Type Culture Collection | |
| Address of depositary institution (<i>including postal code and country</i>) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America | |
| Date of deposit April 28, 1997 | Accession Number 209009 |
| C. ADDITIONAL INDICATIONS (<i>leave blank if not applicable</i>) This information is continued on an additional sheet <input type="checkbox"/> | |
| D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (<i>if the indications are not for all designated States</i>) | |
| E. SEPARATE FURNISHING OF INDICATIONS (<i>leave blank if not applicable</i>) The indications listed below will be submitted to the International Bureau later (<i>specify the general nature of the indications. e.g., "Accession Number of Deposit"</i>) | |
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INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

| | |
|---|-------------------------|
| A. The indications made below relate to the microorganism referred to in the description on page <u>186</u>, line <u>N/A</u> | |
| B. IDENTIFICATION OF DEPOSIT | |
| Further deposits are identified on an additional sheet <input type="checkbox"/> | |
| Name of depositary institution American Type Culture Collection | |
| Address of depositary institution (<i>including postal code and country</i>) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America | |
| Date of deposit April 28, 1997 | Accession Number 209011 |
| C. ADDITIONAL INDICATIONS (<i>leave blank if not applicable</i>) This information is continued on an additional sheet <input type="checkbox"/> | |
| D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (<i>if the indications are not for all designated States</i>) | |
| E. SEPARATE FURNISHING OF INDICATIONS (<i>leave blank if not applicable</i>) The indications listed below will be submitted to the International Bureau later (<i>specify the general nature of the indications, e.g., "Accession Number of Deposit"</i>) | |
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| <input checked="" type="checkbox"/> This sheet was received with the international application International Specialist PCT Operations | |
| Authorized officer <u>WES/USC-G-47</u> 04 JUN 1998 | |
| For International Bureau use only | |
| <input type="checkbox"/> This sheet was received by the International Bureau on: _____ | |
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INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

| | |
|---|-----------------------------------|
| A. The indications made below relate to the microorganism referred to in the description on page <u>174</u>, line <u>N/A</u> | |
| B. IDENTIFICATION OF DEPOSIT | |
| Further deposits are identified on an additional sheet <input type="checkbox"/> | |
| Name of depositary institution American Type Culture Collection | |
| Address of depositary institution (<i>including postal code and country</i>) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America | |
| Date of deposit April 7, 1998 | Accession Number 209746 |
| C. ADDITIONAL INDICATIONS (<i>leave blank if not applicable</i>) This information is continued on an additional sheet <input type="checkbox"/> | |
| D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (<i>if the indications are not for all designated States</i>) | |
| E. SEPARATE FURNISHING OF INDICATIONS (<i>leave blank if not applicable</i>) The indications listed below will be submitted to the International Bureau later (<i>specify the general nature of the indications, e.g., "Accession Number of Deposit"</i>) | |
| For receiving Office use only | |
| <input checked="" type="checkbox"/> This sheet was received with the international application <i>JAC</i> | For International Bureau use only |
| Authorized officer <i>64 JUN 1998</i> | Authorized officer |

What Is Claimed Is:

1. An isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence at least 95% identical to a sequence selected from the group consisting of:

- (a) a polynucleotide fragment of SEQ ID NO:X or a polynucleotide fragment of the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X;
- (b) a polynucleotide encoding a polypeptide fragment of SEQ ID NO:Y or a polypeptide fragment encoded by the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X;
- (c) a polynucleotide encoding a polypeptide domain of SEQ ID NO:Y or a polypeptide domain encoded by the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X;
- (d) a polynucleotide encoding a polypeptide epitope of SEQ ID NO:Y or a polypeptide epitope encoded by the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X;
- (e) a polynucleotide encoding a polypeptide of SEQ ID NO:Y or the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X, having biological activity;
- (f) a polynucleotide which is a variant of SEQ ID NO:X;
- (g) a polynucleotide which is an allelic variant of SEQ ID NO:X;
- (h) a polynucleotide which encodes a species homologue of the SEQ ID NO:Y;
- (i) a polynucleotide capable of hybridizing under stringent conditions to any one of the polynucleotides specified in (a)-(h), wherein said polynucleotide does not hybridize under stringent conditions to a nucleic acid molecule having a nucleotide sequence of only A residues or of only T residues.

2. The isolated nucleic acid molecule of claim 1, wherein the polynucleotide fragment comprises a nucleotide sequence encoding a secreted protein.

3. The isolated nucleic acid molecule of claim 1, wherein the polynucleotide fragment comprises a nucleotide sequence encoding the sequence identified as SEQ ID NO:Y or the polypeptide encoded by the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X.

4. The isolated nucleic acid molecule of claim 1, wherein the polynucleotide fragment comprises the entire nucleotide sequence of SEQ ID NO:X or the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X.

5. The isolated nucleic acid molecule of claim 2, wherein the nucleotide sequence comprises sequential nucleotide deletions from either the C-terminus or the N-terminus.

6. The isolated nucleic acid molecule of claim 3, wherein the nucleotide sequence comprises sequential nucleotide deletions from either the C-terminus or the N-terminus.

7. A recombinant vector comprising the isolated nucleic acid molecule of claim 1.

8. A method of making a recombinant host cell comprising the isolated nucleic acid molecule of claim 1.

9. A recombinant host cell produced by the method of claim 8.

10. The recombinant host cell of claim 9 comprising vector sequences.

11. An isolated polypeptide comprising an amino acid sequence at least 95% identical to a sequence selected from the group consisting of:

(a) a polypeptide fragment of SEQ ID NO:Y or the encoded sequence included in ATCC Deposit No:Z;

(b) a polypeptide fragment of SEQ ID NO:Y or the encoded sequence included in ATCC Deposit No:Z, having biological activity;

(c) a polypeptide domain of SEQ ID NO:Y or the encoded sequence included in ATCC Deposit No:Z;

(d) a polypeptide epitope of SEQ ID NO:Y or the encoded sequence included in ATCC Deposit No:Z;

(e) a secreted form of SEQ ID NO:Y or the encoded sequence included in ATCC Deposit No:Z;

(f) a full length protein of SEQ ID NO:Y or the encoded sequence included in ATCC Deposit No:Z;

- (g) a variant of SEQ ID NO:Y;
- (h) an allelic variant of SEQ ID NO:Y; or
- (i) a species homologue of the SEQ ID NO:Y.

12. The isolated polypeptide of claim 11, wherein the secreted form or the full length protein comprises sequential amino acid deletions from either the C-terminus or the N-terminus.

13. An isolated antibody that binds specifically to the isolated polypeptide of claim 11.

14. A recombinant host cell that expresses the isolated polypeptide of claim 11.

15. A method of making an isolated polypeptide comprising:
(a) culturing the recombinant host cell of claim 14 under conditions such that said polypeptide is expressed; and
(b) recovering said polypeptide.

16. The polypeptide produced by claim 15.

17. A method for preventing, treating, or ameliorating a medical condition, comprising administering to a mammalian subject a therapeutically effective amount of the polypeptide of claim 11 or the polynucleotide of claim 1.

18. A method of diagnosing a pathological condition or a susceptibility to a pathological condition in a subject comprising:
(a) determining the presence or absence of a mutation in the polynucleotide of claim 1; and
(b) diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or absence of said mutation.

19. A method of diagnosing a pathological condition or a susceptibility to a pathological condition in a subject comprising:
(a) determining the presence or amount of expression of the polypeptide of claim 11 in a biological sample; and
(b) diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or amount of expression of the polypeptide.

20. A method for identifying a binding partner to the polypeptide of claim 11 comprising:

- (a) contacting the polypeptide of claim 11 with a binding partner; and
- (b) determining whether the binding partner effects an activity of the polypeptide.

21. The gene corresponding to the cDNA sequence of SEQ ID NO:Y.

22. A method of identifying an activity in a biological assay, wherein the method comprises:

- (a) expressing SEQ ID NO:X in a cell;
- (b) isolating the supernatant;
- (c) detecting an activity in a biological assay; and
- (d) identifying the protein in the supernatant having the activity.

23. The product produced by the method of claim 22.

PATENT COOPERATION TREATY

PCT

**DECLARATION OF NON-ESTABLISHMENT OF INTERNATIONAL SEARCH REPORT
(PCT Article 17(2)(a) and Rule 39)**

| | | |
|---|---|--|
| Applicant's or agent's file reference PZ007PCT | IMPORTANT DECLARATION | |
| | Date of mailing (day/month/year) 14 OCT 1998 | |
| International application No. PCT/US98/11422 | International filing date (day/month/year) 04 JUNE 1998 | (Earliest) Priority Date (day/month/year) 06 JUNE 1997 |
| International Patent Classification (IPC) or both national classification and IPC Please See Continuation Sheet. | | |
| Applicant HUMAN GENOME SCIENCES, INC. | | |

This International Searching Authority hereby declares, according to Article 17(2)(a), that no international search report will be established on the international application for the reasons indicated below.

1. The subject matter of the international application relates to:
 - a. scientific theories.
 - b. mathematical theories.
 - c. plant varieties.
 - d. animal varieties.
 - e. essentially biological processes for the production of plants and animals, other than microbiological processes and the products of such processes.
 - f. schemes, rules or methods of doing business.
 - g. schemes, rules or methods of performing purely mental acts.
 - h. schemes, rules or methods of playing games.
 - i. methods for treatment of the human body by surgery or therapy.
 - j. methods for treatment of the animal body by surgery or therapy.
 - k. diagnostic methods practiced on the human or animal body.
 - l. mere presentations of information.
 - m. computer programs for which this International Searching Authority is not equipped to search prior art.
2. The failure of the following parts of the international application to comply with prescribed requirements prevents a meaningful search from being carried out:

the description the claims the drawings
3. The failure of the nucleotide and/or amino acid sequence listing to comply with the prescribed requirements prevents a meaningful search from being carried out:

it does not comply with the prescribed standard
 it is not in the prescribed machine readable form
4. Further comments:
Please See Continuation Sheet.

| | |
|---|---|
| Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230 | Authorized officer <i>Dorothy Lawrence</i> BRIAN R. STANTON Telephone No. (703) 308-0196 |
|---|---|

**DECLARATION OF NON-ESTABLISHMENT OF
INTERNATIONAL SEARCH REPORT**

International application No.
PCT/US98/11422

The International Patent Classification (IPC) or National Classification and IPC are as listed below:

IPC(6): A01N 37/18, 43/04; C12Q 1/00, 1/02, 1/68; C12N 5/00, 5/06, 15/00, 15/06, 15/09, 15/10, 15/11; G01N 33/53

US CL.: 435, 4, 7.1, 69.1, 70.1, 71.1, 172.3, 243, 320.1, 325, 410; 514/2, 44; 530/350, 387.1

4. Further Comments (Continued):

Applicant has not responded to the invitation to pay additional fees mailed on 04 August 1998. Therefore, the search would be conducted on the first appearing invention which includes claims 1-10, 14, and 15 in so far as these claims are drawn to the first ten (10) appearing nucleotide sequences. However, no meaningful search could be carried out on these sequences because the CRF that was received for this case on 15 June 1998 was technically defective and could not be used to conduct a search of the prior art.

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